OUTLOOK FOR 2024

In 2024, Pražské vodovody a kanalizace, a.s. (PVK) will focus on seven core strategic areas: Environment, Safety, Governance and Compliance, Technology and Innovation, Customers and Communications, Employees, and Operations.

- PVK will complete its Business Continuity Management project in 2024.
- PVK will work with Pražská vodohospodářská společnost a.s. to produce the first “Prague Water” ESG report, covering the year 2023.
- PVK will oversee the deployment of ARCGIS Pro, its new geographic information system. The Company will continue to develop its next-generation SWiM 4.0 control system so it can go live in 2025. BIM (Building Information Modelling) will be integrated with the TIS (Technical Information System). The Company will introduce elements of artificial intelligence into its internal processes.
- As part of the upgrade of the Central Wastewater Treatment Plant’s old water line (OWL), PVK will shut down the OWL while ensuring that the discharge limits for treated water are respected in accordance with its water-law permit.
- PVK will launch the Energy Facility Data Analysis project and establish the position of power and technology engineer.

- PVK will install the designated capacity of photovoltaic energy sources in 2024.
- PVK will complete the upgrade of the customer portal. In September, the Company will conduct its traditional telephone survey of customer satisfaction with PVK services.
- The certification of the Company's integrated management system will be re-audited in November.
- PVK will update its emergency response plans and put into effect the requirements of the new Critical Infrastructure Protection Act and the NIS2 Cybersecurity Directive.

SNAPSHOT

Pražské vodovody a kanalizace (PVK), a public company limited by shares, is the legal successor of the state-owned enterprises Pražské vodárny and Pražská kanalizace a vodní toky to the extent specified

SHAREHOLDERS

51%
Veolia Holding Česká republika, a.s.

49%
Pražská vodohospodářská společnost a.s.

---

1 April 1998
INCORPORATED

CZK 483,288,000
SHARE CAPITAL

Public limited company
(*akciová společnost*)
LEGAL FORM

25656635
COMPANY NUMBER

Ke Kablu 971/1, 102 00 Praha 10 – Hostivař
REGISTERED OFFICE

The Company has no branches outside the Czech Republic.
The Company holds no treasury shares.

SIGNIFICANT EVENTS IN2023

▶ CWWTP STARTS DISTRIBUTING BIOMETHANE

In mid-June, Prague's Central Wastewater Treatment Plant (CWWTP) secured approval for a groundbreaking energy innovation investment – a unit that converts biogas derived from the stabilisation of wastewater treatment sludge into biomethane of the requisite quality for it to be fed into the gas distribution network.

There were further steps downstream from this. First, on 31 July 2023, PVK was awarded ISCC sustainable fuel certification for both biogas and biomethane. Then, on 7 September 2023, the Company was granted the gas producer's licence it needed to start injecting biomethane into the gas network.

In partnership with Pražská plynárenská Distribuce, a.s., and Pražská vodohospodářská společnost a.s., (PVS), the first cubic metres of biomethane were supplied to the gas distribution network on 14 September 2023. Between then and the end of 2023, 60,313 Nm^3 of biomethane was produced at the CCWTP and delivered to the network.

▶ SAFER CHLORINATION AT LÁDVÍ I

PVK introduced state-of-the-art drinking water chlorination at the Ládví I reservoir in the borough of Prague 8. The original method, involving the application of chlorine gas, was replaced by the production of sodium hypochlorite directly at the feed point. From an operational perspective, a major advantage is that this method is safe for the surrounding residential area as we have done away with the storage of drums of chlorine gas and their transportation to the feed point.

The new on-site sodium hypochlorite production technology uses ordinary table salt as a raw material. As a result, it is less demanding to operate and maintain than a chlorine gas plant.

▶ KARLÍN FLOOD DEFENCE SYSTEM

The flood defence system for the Prague district of Karlín, one of the areas worst hit by the devastating floods of 2002, was completed in early November. The final piece of the puzzle was the construction of a retention tank and pumping station near the street of Rohanské nábřeží.

This stage of the flood control programme cost CZK 483 million. The investor was Pražská vodohospodářská společnost a.s., and the contractor was Společnost PPO Karlín, a consortium comprising SMP Vodohospodářské stavby a.s. (a member of the VINCI Construction CS group) and Čermák a Hrachovec a.s. The flood defences are operated by PVK. The project includes a 6,000 m^3 water retention tank to significantly reduce the volume of wastewater overflowing into the Vltava River.

CRITICAL INFRASTRUCTURE THREAT PREPAREDNESS

HYG-TOXY 2023, a large-scale training drill simulating an attack with an unknown substance on Prague's water infrastructure, and specifically the Flora reservoir, was held on the first day of November. The "attacked" facility has a maximum storage capacity of 5,630 m^3 and supplies water to over 16,000 customers in the boroughs of Prague 2, 3, and 10.

The aim was to test procedures, communication channels and cooperation between Prague City Hall, the emergency services, the Czech army, and other entities in protecting critical water infrastructure in the metropolitan area. At this exercise, PVK was joined by Prague City Hall, the boroughs of Prague 2 and Prague 3, the state police, the army, the Prague fire brigade, the Prague health authority, Prague's municipal police, and the Red Cross.

PVK'S AUTUMN AUDITS

In mid-October, PVK's anti-bribery management system was recertified for the next few years following a successful audit. Audits from the certification company Bureau Veritas found no non-conformities during this recertification audit. In November, the integrated management system was surveillance-audited by ITC (Institute for Testing and Certification) in line with the requirements of ČSN EN ISO 9001, ČSN EN ISO 14001, ČSN EN ISO 45001, and ČSN EN ISO 50001. The auditors found no non-conformities and concluded that PVK was capably and efficiently applying new regulatory requirements.

PVK CARBON-AUDITED

In November, PVK became the first company in the Czech Republic to have its GHG Inventory Report audited in compliance with ISO 14064. The audit opinion was issued by Validační a ověřovací orgán SGS Czech Republic, a body accredited by the Czech Accreditation Institute. This carbon footprint audit demonstrated that, in efforts to protect the environment, we cannot rely on assumptions alone, but need hard data.

Contrary to initial assumptions that PVK's main sources of emissions were energy and transport, it turns out that the technological processes involved in wastewater treatment are major emitters. Emissions attributable to electricity and natural gas consumption account for just 22.6%, while the impact of transport is negligible (0.008%).

PRAGUE'S RESERVOIRS AS A SOURCE OF WATER AND ELECTRICITY

Throughout the year, PVK ran tests on the use of water infrastructure to even out imbalances in the electricity grid. The one big advantage that water has over electricity is that it can be stored cheaply and ecologically. The project is predicated on a principle similar to pumped-storage power plants. At times when there is a surplus of electricity and it is therefore cheaper, water is pumped into the reservoirs. And when electricity is in short supply, the pumps stop to relieve the strain on the grid.

The whole system is fully automated. PVK's central control room responds to online requests from the transmission system by adjusting the output of the pumps, thereby increasing or decreasing power consumption. The initial phase of the pilot project involved three out of a total of 55 pumping stations, equivalent to 2 MW of installed power.

CORPORATE GOVERNANCE

PVK BOARD OF DIRECTORS

Philippe Guitard – Chairman
Petr Mrkos – Vice-Chairman
Martin Bernard
Miluše Poláková
Reda Rahma
Pavel Válek
Mark Rieder

PVK SUPERVISORY BOARD

Zdeněk Zajíček – Chairman
Michal Hroza – Vice-Chairman
Rostislav Čáp
Marcela Dvořáková
Antonino Milicia
Zdeněk Hořánek
Marek Dřevo
Lucie Luxová
Ladislav Částka

PVK MANAGEMENT

CEO – Petr Mrkos
HR Director – Zuzana Šepsová
CFO and Sales Director – Marek Červíček
Chief Operating Officer – Petr Kocourek
Chief Technical Officer – Petr Sýkora
Chief Communications and Marketing Officer – Marcela Dvořáková
Chief Security Officer – Jan Záveský

KEY FIGURES

Profit after tax:

CZK 605.65 million

Number of employees:

1,171

Total wastewater treated:

118,806,000 m^3

Length of the sewerage network operated:

4,931 km, including supply pipes

Number of contract customers:

95,779

Net turnover:

CZK 10.92 billion

Water supplied to the water supply network:

94,448,000 m^3

Length of the water supply network operated:

4,602 km, including supply pipes

EDITORIAL BY THE CHAIRMAN OF THE BOARD OF DIRECTORS

PHILIPPE GUITARD
Chair of the Board of Directors**

Ladies and Gentlemen,
Veolia Group clearly proved its credentials as a global leader in ecological transformation and environmental service provision in 2023. This worldwide success would not have been possible without the combined efforts of each of our Group's members. Pražské vodovody a kanalizace, a.s. (PVK), as a Veolia Group company, is a prominent ambassador of our commitment to preserving quality of life and the planet's resources for future generations.

In 2023, PVK became the first water company in the Czech Republic to be ISO 14064 certified for greenhouse gas emissions. Certification of this standard is the culmination of several years' work to define clearly the priorities and strategy for reducing greenhouse gas emissions. In PVK's case, this is not simply an administrative exercise, but a set of tangible measures that are already in place and will continue to be implemented in the future. Initiatives I am keen to mention include the commissioning of a bioCNG station at the Central Wastewater Treatment Plant, the installation of photovoltaic systems with support from the Veolia Fund, and a project to harness the flexibility of the water supply system in order to promote renewable energy sources, which is being implemented as part of the Veolia Energie aggregation block. All these projects illustrate that commercially successful projects driven by a clear economic vision are feasible in the context of our ongoing ecological transformation. Of course, I think it is absolutely crucial that these efforts enjoy the unqualified support of both PVK shareholders. The City of Prague is systematically pursuing its Climate Plan goals, which are aligned with Veolia's ecological transformation plan and PVK's long-term business strategy.

The symbiosis between ecological and economic efforts in business is neatly evidenced by PVK's turnover from its business operations beyond the regulated field of water and sewage, which was just shy of a billion crowns in 2023. As it turns out, succeeding in business while being planet-friendly is attainable.

Sadly, the protracted conflict in Ukraine is exposing more and more the threats that our civilisation will have to tackle in the future. With this in mind, in 2023 PVK worked with the City of Prague and the security forces of the Czech Republic to organise Hyg-Toxy, a large-scale security exercise. The conclusions of this training event validate our strategy to continue strengthening security in the years ahead.

In 2023, we launched the implementation of the BCM (Business Continuity Management) system, which will be followed in 2024 by the formulation of BCPs (Business Continuity Plans). In 2024, we will also revise our emergency response plans to reflect current threats. Since cybersecurity is a top priority for us, we are proactively taking all necessary measures so that we are ready for the swift implementation of the NIS2 Directive. Occupational safety is an equally important concern for the Company, reflected in how it has long prioritised the safety and health of its employees. In September, PVK was again involved in the Group's International Health and Safety Week. We issued twelve life-saving rules that serve as a last line of defence for our employees in staving off potential injuries. PVK also participated in the Veolia Cares global social programme.

As one of the industry's technology pioneers, we strive to be at the cutting edge of innovation. In partnership with Pražská vodohospodářská společnost a.s. (PVS), we successfully implemented the BIM (Building Information Modelling) project, which will be followed in 2024 by the long-prepared connection to the Technical Information System. The development of SWiM 4.0, the next-generation central control system integrating fast-emerging aspects of artificial intelligence, will also proceed in earnest. The launch of this system has been slated for 2025.

I am very proud of the quality of the social dialogue between our Company, the trade unions, and our employees, which has yielded a long-term sustainable increase in wages that allows us to safeguard the living standards enjoyed by our staff.

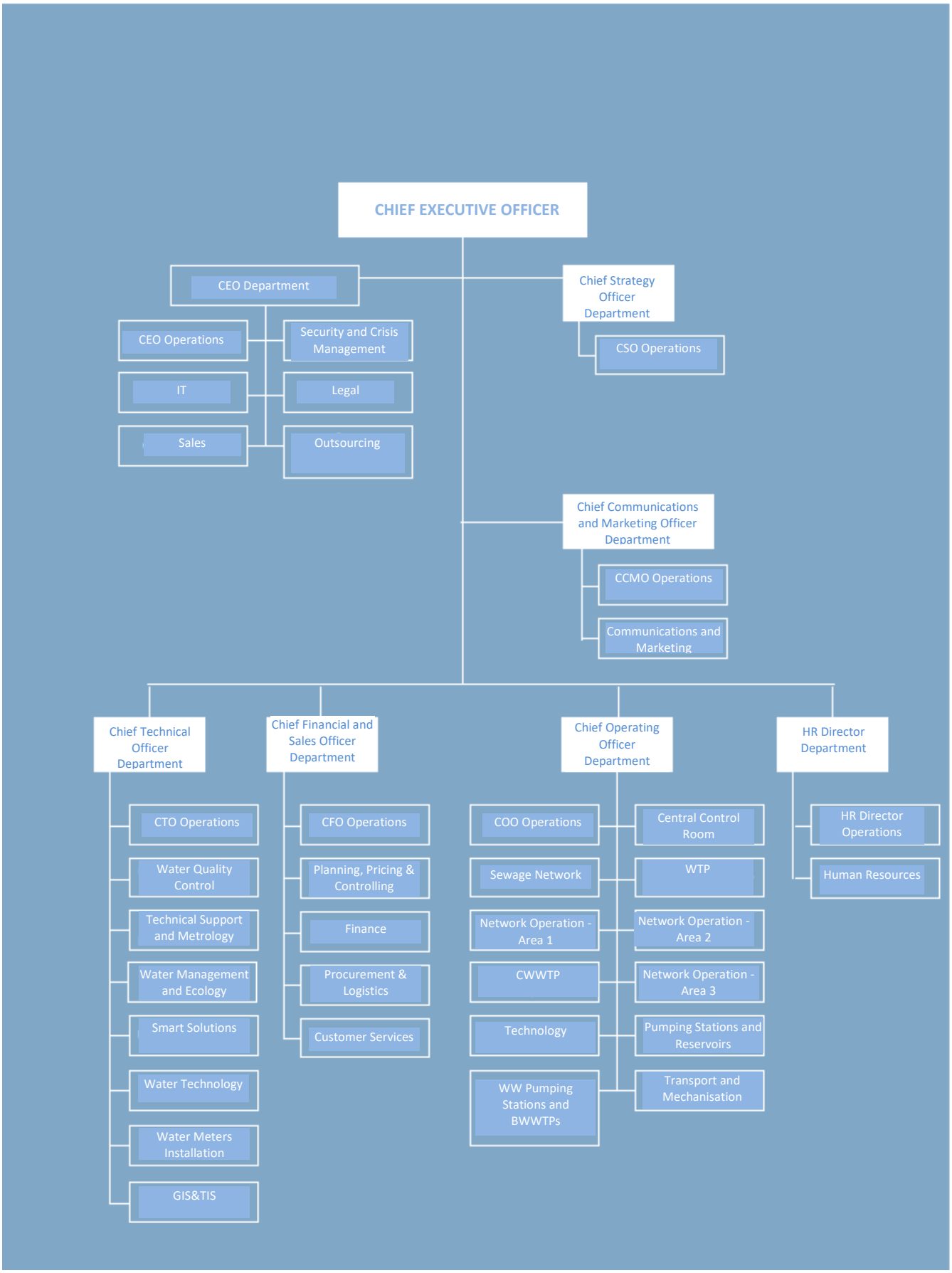
This is borne out by the outstanding scores achieved in our in-house employee satisfaction survey. I am also very appreciative of the constructive spirit shown by the trade unions. One of our goals for 2024 is to increase the resources we channel into our support of trade union activities at the Company.

I would like to thank all PVK employees for their fine work and all our partners for embracing the values and ideals embodied by our Company. In recent years, we have made significant progress in the field of compliance. We are ISO 37001 certified, keep to a well laid-out anti-bribery strategy, and send a clear message to all our partners that we take this matter seriously. Transparency International (TI), which provides regular training to our staff, has been a great help along the way, and we are grateful to the members of this organisation.

We face a number of challenges in 2024. Large-scale Company relocation will see nearly 250 colleagues moving to new temporary or permanent workplaces. Within the scope of the 2024 strategy, PVK's management has set numerous objectives in seven different areas in order to respond to the challenges posed by the pace of technological progress, the security situation, and the needs of our customers and employees. It is my wish that PVK will be able to achieve all these goals.

PVK remains a rock in today's fractious world.

ORGANISATIONAL STRUCTURE


CHIEF EXECUTIVE OFFICER
CEO Department
CEO Operations
Security and Crisis Management
IT
Legal
Sales
Outsourcing
Chief Strategy Officer Department
CSO Operations
Chief Communications and Marketing Officer Department
CCMO Operations
Communications and Marketing
Chief Technical Officer Department
CTO Operations
Water Quality Control
Technical Support and Metrology
Water Management and Ecology
Smart Solutions
Water Technology
Water Meters Installation
GIS&TIS
Chief Financial and Sales Officer Department
CFO Operations
Planning, Pricing & Controlling
Finance
Procurement & Logistics
Customer Services
Chief Operating Officer Department
COO Operations
Sewage Network
Network Operation - Area 1
CWWTP
Technology
WW Pumping Stations and BWWTPs
Central Control Room
WTP
Network Operation - Area 2
Network Operation - Area 3
Pumping Stations and Reservoirs
Transport and Mechanisation
HR Director Department
HR Director Operations
Human Resources

118,805,994 m³ of WASTEWATER TREATED IN 2023

Pražské vodovody a kanalizace, a.s. (PVK) provides comprehensive water management services, an uninterrupted supply of high-quality drinking water, sewage disposal, and wastewater treatment for the City of Prague and Radonice.

NAŠE SLUŽBY

OUR SERVICES

Pražské vodovody a kanalizace, a.s. provides comprehensive water management services, an uninterrupted supply of high-quality drinking water, sewage disposal, and wastewater treatment for the City of Prague and Radonice. In addition to this core business, the Company offers a range of other related services to the public, housing cooperatives, municipalities and industrial enterprises. These include laboratory analysis, network diagnostics, water meter replacement and smart metering, network surveys, and network measurements, to name just a few.

For the most part, the water networks and water facilities operated by PVK are owned by the City of Prague. These assets are managed by the city-owned Pražská vodohospodářská společnost a.s. (PVS), which is responsible for investment. Since 20 September 2018, PVS has been a 49% shareholder in PVK. Pražské vodovody a kanalizace operates the water infrastructure and pays rent to the city to use it. PVK has paid the city CZK 44.5 billion in rent since 2002, when Veolia bought into the Company. Now, 51% of PVK's shares are held by Veolia, a company that supplies water, heat, cooling, and electricity and is active in waste processing and recovery in the Czech Republic and elsewhere around the world. It provides its subsidiaries with know-how in the design, roll-out and operation of water infrastructure that it has accumulated in 170 years' experience.

68,500,416 m³

Želivka Water Treatment Plant

CERTIFICATION

In autumn 2023, the Company defended the certificate of its anti-bribery management system under ISO 37001 in a recertification audit conducted by Bureau Veritas, and successfully underwent a surveillance audit for the recertification of its integrated management system under ISO 9001 (quality management system), ISO 14001 (environmental management system), ISO 50001 (energy management system), and ISO 45001 (occupational health and safety management system), which has been in place at the Company since 2006. PVK's integrated management system is diamond-certified by Certified Quality Systems (CQS).

Both audits by certification authorities affirmed that PVK is an industry leader. No non-conformities were found and in both cases the auditors acknowledged the high standard of the system in place.

In 2023, the company published its 2022 GHG Inventory Report in accordance with ISO 14064. The correctness of the procedure and the data was verified by Validační a ověřovací orgán SGS Czech Republic, a body accredited by the Czech Accreditation Institute.

DRINKING WATER SUPPLY AND DISTRIBUTION

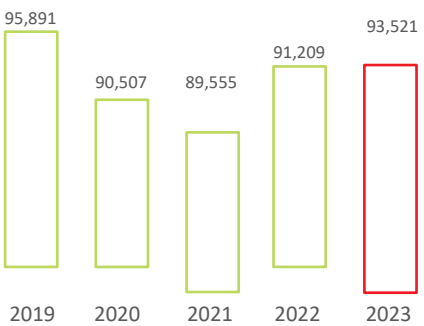
PVK supplies drinking water to 1.4 million inhabitants of Prague and exports water for another 250,000 people living in the Central Bohemia Region. It operates water infrastructure in the City of Prague and in Radonice.

It is responsible for supplying high-quality drinking water from the Káraný and Podolí water treatment plants (WTPs), which it operates, and from the Želivka and Sojovice WTPs, from which it purchases ("imports") water.

Podolí Waterworks was extensively upgraded between 2019 and 2021. A third level of treatment stage was added in the form of granular activated carbon (GAC) filtration, which even removes solute – such as pesticides, their metabolites and other substances – from the water. This technology was already in use at the Želivka water treatment plant. Consequently, the quality of the water supplied from Podolí is the same as that from Želivka and satisfies the strict limits established by decree throughout the year, despite the occasionally degraded quality of raw water in the Vltava River.

The PVK Central Control Room is responsible for round-the-clock control of water distribution from the various water treatment plants. These days, the supply of drinking water also relies on automated processes and information systems that oversee everything from the production of drinking water in water treatment plants to the filling of reservoirs and subsequent distribution to consumers.

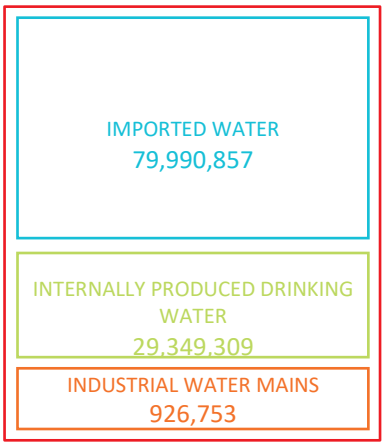
WATER SUPPLIED TO THE WATER SUPPLY NETWORK, 2019–2023 (THOUSANDS OF M^3)



WATER SUPPLIED TO THE WATER SUPPLY NETWORK IN 2023

	Indicator	Quantity (m^3)
Drinking water	Drinking water produced by PVK	29,349,309
	Water imported from the Želivka and Sojovice WTPs	79,990,857
	Total drinking water	109,340,166
	Exported water (drinking water supplied into a public water supply network managed by another entity)	15,819,443
	Water for sale	93,520,723
Industrial water	Water produced – industrial water mains	926,753

INTERNALLY PRODUCED AND IMPORTED WATER IN 2023 (M³)



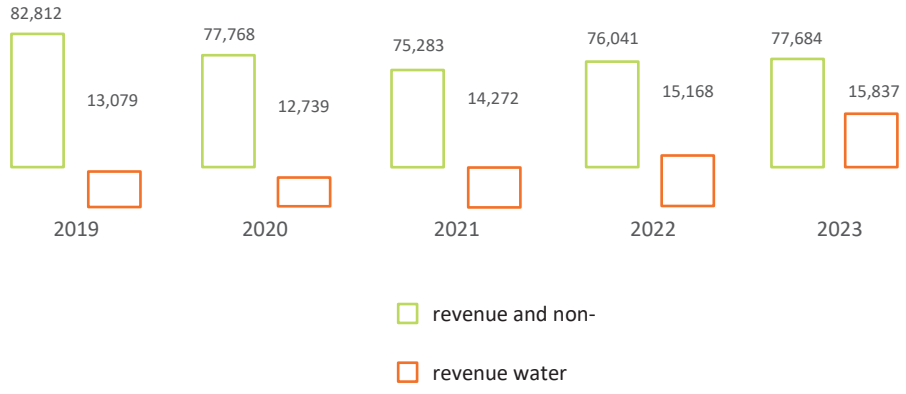
Length of water supply network	3,690 km
Length of supply pipes	892 km
Number of supply pipes	119,028
Number of water meters	117,895
Number of reservoirs	68
Volume of reservoirs	752,744 m³
Number of pumping stations	54

In 2023, PVK supplied 93,521,000 m³ of drinking water to the water supply network, 2,312,000 m³ (2.5%) more than in the previous year. Average per capita water consumption was 103 litres per day. Last year, once again, water consumption in Prague had yet to return to the historical levels recorded prior to the restrictions imposed in recent years, which dampened tourism, resulting in the shuttering or limited operation of hotels, restaurants, shops and service-industry establishments, and saw many employees switch to working from home. Our projections indicate that the WFH trend, which reduces the numbers of people commuting daily from the Central Bohemian Region to Prague, is set to persist to some extent, and that this will translate into lower levels of water consumption in Prague.

3,690 km

Length of water supply network

REVENUE AND NON-REVENUE DRINKING WATER BETWEEN 2019 AND 2023 (THOUSANDS OF M³)



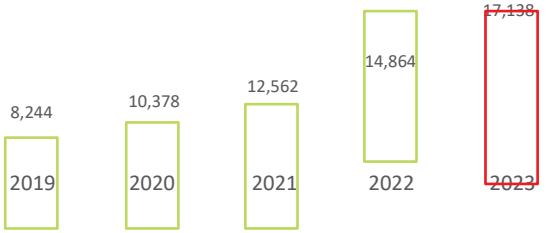
WATER LOSSES

Water losses in operated water supply network, which have long been below the national average, came to 15.98% in 2023, equivalent to a total volume of 14,949,000 m³ (City of Prague and Radonice). It was not that long ago, in 2000, that more than a third of water was being lost. Just a few years previous to that, in 1996, losses were more than 43%.

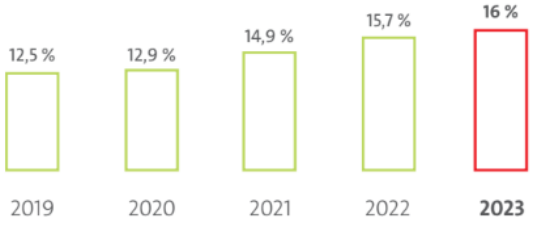
PVK's regular monitoring of the water supply network includes the continuous assessment of water losses in supply zones and regular water supply network diagnostics. This is one of the chief factors behind the good water loss statistics.

In 2023, 3,041 km of the water network were inspected and 227 hidden leaks were discovered. For the fourth year running, PVK's efforts to combat water loss drew on satellite sensing, a unique technology that identified 30 additional hidden leaks and inspected 975 km of specifically targeted piping in the network.

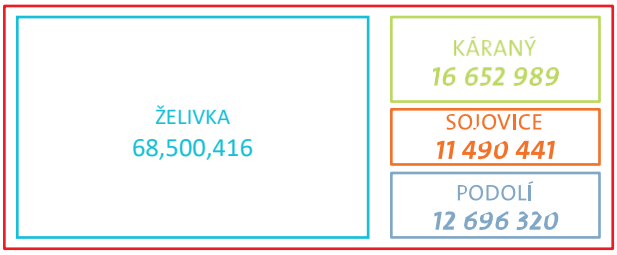
NUMBER OF REMOTE-READING WATER METERS BETWEEN 2019 AND 2023



DRINKING WATER LOSSES BETWEEN 2019 AND 2023 (%)



DRINKING WATER PRODUCTION BY WATER TREATMENT PLANT (M^3)



WATER METERS

At the end of 2023, there were 117,895 water meters – used to measure the consumption of the drinking water supplied – in the PVK network in Prague and Radonice. The Company replaced 16,914 main water meters and 612 sub-meters that had reached the end of their service life. In addition to these water meters, 185 new remote-reading sub-meters for individual billing, known as dedicated irrigation water meters, were installed. In response to customer requests, 564 meters were officially bench-tested, and 35 official meter tests carried out on the spot. Repairs and checks of 8,821 meters were outsourced.

The proportion of remote-reading meters is rising every year. In 2023, there was an 15% year-on-year increase in these water meters to 17,138. Remote radio-transmitted readings offer greater user convenience and lower reading costs. In addition, they can be used to monitor water consumption online and promptly detect any malfunctioning meters. They are also a guarantee of precision.

In its remote readings, PVK works with large companies such as Veolia Energie ČR, a.s., Pražská plynárenská, a.s., and PREměření, a.s.

In 2023, PVK conducted several pilot projects to test innovations in smart metering and data transmission in real-world settings, including from radio-shaded locations (manholes, concrete monoliths, etc.).

WATER SUPPLY INCIDENTS

In 2023, PVK dealt with 4,487 water supply incidents, up 613 (15.8%) on the preceding year. Even though the number of incidents went up, the average water supply interruption time per incident actually decreased significantly to 8 hours and 29 minutes, down by 1 hour and 58 minutes year on year.

Of the total number of incidents, 72 (i.e. only 1.6%) were category 1 incidents, where more than 1,000 inhabitants are left without water or where the supply to medical or other important facilities is affected. There were 176 category 2 incidents (3.9% of the total number), and 4,239 category 3 incidents (94.5%).

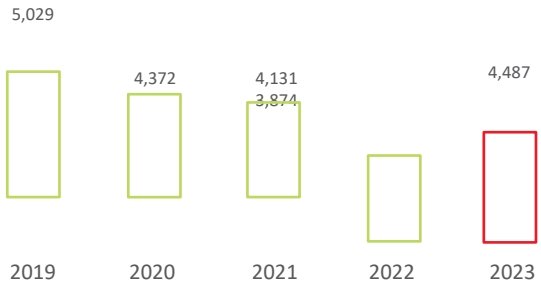
The leading cause of the incidents was corrosion (72.9%), followed by land movement (22.2%) triggered, for example, by frost. These two causes were responsible for more than 95.1% of cases. The remaining less than 4.9% of incidents were the result of third-party intervention, material defects, frozen pipes, and other miscellaneous causes.

It is Company policy to provide maximum information on each incident while minimising the impact on the consumer. Incidents are reported online at www.pvk.cz. This information clarifies whether drinking water supplies are affected at a particular site, where water wagons have been deployed, whether water (including packaged water in bags) has been distributed for emergency supply, and the estimated time it will take to complete the repair and restore normal water supply. All this information is also available via Google Maps. Prague residents who have registered with the SMS INFO text message service also receive news about outages and incidents on their mobile devices.

CATEGORY 1, 2 AND 3 INCIDENTS BETWEEN 2019 AND 2023

Incident	Category 1 incident	Category 2 incident	Category 3 incident
2019	74	142	4,813
2020	73	133	4,166
2021	71	122	3,938
2022	40	127	3,707
2023	72	176	4,239

NUMBER OF WATER SUPPLY INCIDENTS REPAIRED BETWEEN 2019 AND 2023



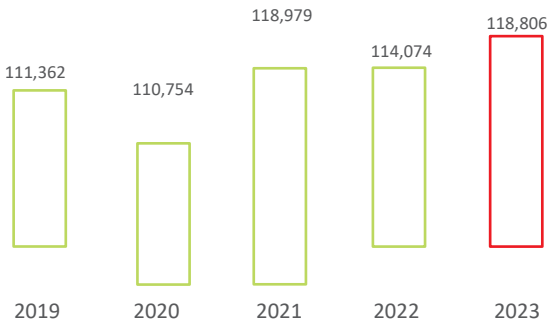
WASTEWATER COLLECTION AND TREATMENT

In 2023, 1.4 million inhabitants were connected to the sewerage system in Prague. The sewerage system in place in the central part of Prague is a combined system, i.e. it drains sewage together with rainfall to the existing Central Wastewater Treatment Plant (CWWTP) and, since 19 September 2018, also to the New Water Line (NWL). The outskirts of Prague are served by separate sewer networks that drain sewage and rainwater separately.

In 2023, in addition to the CWWTP, PVK operated a further 22 branch wastewater treatment plants (BWWTPs): Březiněves, Horní Počernice – Čertousy, Dolní Chabry, Holyně, Kbely, Koloděje, Kolovraty, Klánovice, Královice, Lochkov, Lipence, Miškovice, Nebušice, Nedvězí, Přední Kopanina, Sobín, Svépravice, Uhříněves - Dubeč, Újezd nad Lesy, Újezd u Průhonic, Vinoř and Zbraslav.

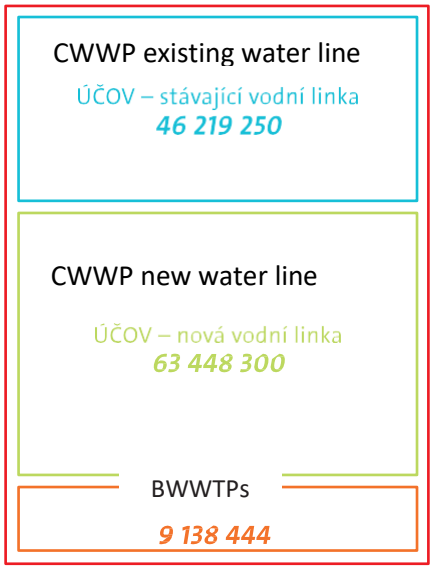
Total length of the sewerage network	3,904 km
Length of drainage pipes	1,027 km
Number of drainage pipes	127,866
Number of pumping stations	349
Number of wastewater treatment facilities	Central WWTP + 22 branch WWTPs

TOTAL QUANTITY OF WASTEWATER TREATED BETWEEN 2019 AND 2023 (THOUSANDS OF M^3)



In 2023, 118,806,000 m^3 of wastewater was treated at the existing CWWTP, the NWL and BWWTPs. This is 4.1% more than in the previous year. Of the total wastewater treated, 53% was treated via the NWL, 39% via the CWWTP's old water line, and 8% via branch wastewater treatment plants.

QUANTITY OF WASTEWATER TREATED IN 2023 (M^3)



CELKEM
118 805 994

The treatment of Prague's wastewater at the CWWTP and the NWL resulted in the separation of 3,594 tonnes of grit (sand and gravel) and 414 tonnes of screenings. The total annual production of dewatered stabilised sludge was 80,449 tonnes, of which 93% was used in agriculture and 7% was composted.

The CWWTP's old water line produced 17,658,000 Nm^3 of biogas in the sludge stabilisation process. The Company's cogeneration units produced 38,366 MWh of electricity. The Company's operation of the old water line consumed 29,537 MWh, while 9,093 MWh of surplus "green" energy was distributed to the Prague grid. The operation of the New Water Line required 23,229 MWh.

In mid-September 2023, PVK started producing biomethane and injecting it into the gas distribution network. By year-end, it had delivered 60,313 Nm^3 of biomethane to the distribution network.

NUMBER OF SEWER NETWORK INCIDENTS BY TYPE OF FACILITY IN 2023

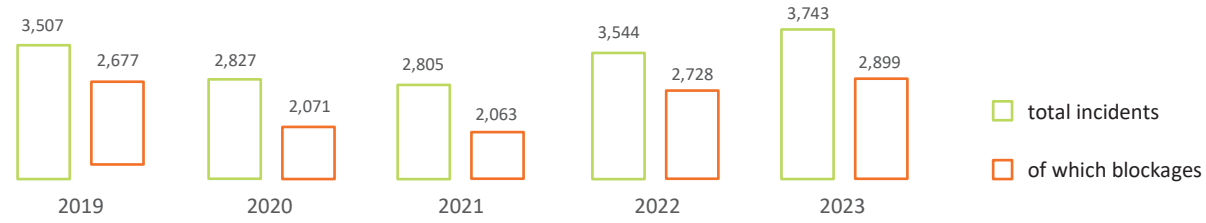
Type of facility	Number of incidents	%
Sewers	1,142	30.5
Drainage pipes	1,970	52.6
Shafts, chambers, reservoirs, spillways	500	13.4
Other	131	3.5
Total	**3,743**	100

INCIDENTS IN THE SEWER NETWORK

In 2023, PVK employees dealt with 743 sewer network incidents, including manhole-related incidents and blockages. This was 199 (5.6%) more incidents than in the preceding year. The highest proportion of incidents involved drainage pipes (52.6%), while 30.5% of cases concerned sewers.

The most common sewer network incidents, in terms of the type of damage, involved blockages and sediment, accounting for 77.4%, or 2,899, of incidents. Other causes of incidents included missing or broken manhole covers, damaged rehabilitation lining, destruction, deformation, damaged masonry, etc.

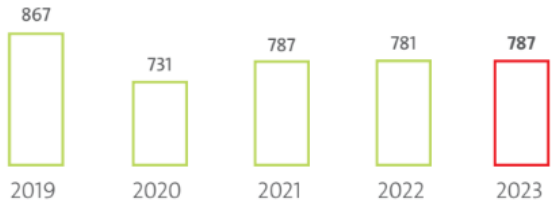
SEWER NETWORK INCIDENTS BETWEEN 2019 AND 2023, SHOWING THE NUMBER OF BLOCKAGES



EQUIPMENT BREAKDOWNS

In 2023, PVK handled 787 equipment breakdowns, i.e. six (0.7%) more than in the year before.

NUMBER OF EQUIPMENT BREAKDOWNS BETWEEN 2019 AND 2023



SEWER NETWORK SURVEYS

Systematic preventive surveys of the sewer network are carried out under an operating contract between PVK and PVS. Camera inspection systems are used for sewers that cannot be entered physically and visual inspections are conducted on foot in tunnels. PVK also inspects sewers exposed to high-velocity water discharge and within the framework of repairs of tramlines, road surfaces, and utilities.

In 2023, the PVK staff surveyed 143.6 km of sewers and inspected 1,837 access shafts and sewer network installations. These inspections revealed 28 sewer network faults. Drawing on their evaluations of sewer network inspections, employees came up with 67 proposals to fix defects. These were subsequently submitted for inclusion in repair and investment plans.

One sewer inspection method involved the smoke method, which PVK staff used to inspect 11 km of sanitary sewers in 2023. Smoke testing is mainly used to detect separate sewer system misconnections or to verify the route of a sewer. In 2023, using this method employees detected 13 misconnections where surface water was being discharged into the sanitary sewer system. Removing these connections reduces the strain on pumping stations and branch treatment plants.

In cooperation with Lesy hlavního města Prahy, the Czech Environmental Inspectorate and Prague City Hall, the Company's employees found 8 misconnections where wastewater was being discharged into surface water sewers. Their subsequent disconnection improved the quality of surface water in Prague.

Since 2020, PVK has also been seeking out sewers used for the drainage of rainwater where it is unclear who owns and operates them. In 2023, these inspections continued and were upscaled.

WATER QUALITY

PVK's accredited laboratories carry out regular checks on drinking water and wastewater quality. The accreditation under ČSN EN ISO/IEC 17025:2018 covers the entire range of the laboratories' activities: sampling and analysis of drinking, hot, packaged, surface, raw, ground and waste water, water from intermediary process stages and sludge, and bathing water, including waste sampling and analyses of process chemicals used in water treatment and purification.

DRINKING WATER

Drinking water throughout Prague is safe. Its physical, chemical, microbiological and biological properties comply fully with Czech and European standards. The quality is systematically checked throughout the production and distribution of drinking water, all the way to the consumer's tap.

Drinking water quality is regularly monitored in accordance with Decree No 252/2004 laying down requirements for drinking and hot water and the scope and frequency of drinking water checks, as amended, which conforms to EU drinking water requirements. Water quality is also checked after incidents, repairs and any other interventions in the water supply network. Drinking water quality monitoring is based on the requirements of Decree No 252/2004 as well as on risk factors affecting the drinking water treatment process, from the source to the end point of the water supply network. Screening analyses of other risky contaminants are also conducted regularly to confirm that drinking water is free of other extraneous matter. This Decree was amended at the end of 2023 to incorporate the requirements of Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption.

PVK laboratories are prepared for these changes and the new requirements have been included in the drinking water quality control programmes approved by the public health authority. In 2023, as in previous years, the water supply network was inspected for drinking water quality control purposes at the points of delivery to the distribution system, along the distribution route, in each of the water reservoirs, and directly at consumers. One problematic indicator in the distribution of drinking water is its iron content and the associated water colour and turbidity. Depending on the drinking water quality control results, the water supply network is flushed and documentation on its periodic renovation is submitted.

More than 7,000 samples of drinking water supplied to the Prague water supply network were taken over the year in cooperation with individual water treatment plants in 2023.

The entire drinking water treatment process is also monitored. In addition, samples are regularly taken at individual water treatment plants to control the water treatment technology itself, including analyses of the raw water used for water treatment. This results in additional samples for the quality control of water supply and helps to help to monitor water quality all the way from the source to the consumer's tap. Close attention is also paid to sampling drinking water after water supply network incidents and repairs to ensure that consumers have a safe supply of drinking water. For this purpose, a further 700 samples were taken. Here, 19,483 parameters were analysed, 99% of which complied with the Decree's drinking water requirements.

In the practices followed by the laboratory, the application of alternative microbiological methods to detect potential contamination of drinking water following interventions in the water supply network has proven useful when putting the water supply back into service. In addition, new modern means of determining water contamination that provide information on water quality more quickly than the conventional culture-based methods used in routine drinking water quality control cases are investigated. These new methods are important for dealing with remedial measures when water mains are put back into operation after an incident.

WASTEWATER

The PVK laboratory regularly monitors wastewater quality throughout the wastewater collection and treatment process. Wastewater samples taken directly from specific points in the sewer network, from industrial wastewater producers, and from each wastewater treatment plant are analysed. A large section of samples (including of sludge gas and sludge) comes from the Prague CWWTP and its installations so that the efficiency of the treatment process can be evaluated. Liquid waste delivered to selected WWTPs by outside entities is also checked. The scope and frequency of monitoring complies with all applicable wastewater legislation. The main reason for wastewater quality control is to ensure compliance with the limits prescribed for effluent discharged into surface water, with a view to preventing the discharge of contaminated wastewater and damage to the environment.

To cope with the high number of wastewater samples, automated analysers are used in the wastewater laboratory. These are able to process large numbers of samples, thus speeding up the water quality control process. In 2023, 23,990 samples were processed in the PVK wastewater laboratory.

As part of the ongoing water quality control, the presence of SARS-Co-V-2 virus in wastewater is still monitored. The results of these laboratory analyses are instrumental in tracking the course of the epidemic in Prague.

OTHER SERVICES

Cooperation with ČEZ, a.s. and Energotrans, a.s.

In 2023, PVK and its partners, MARTIA a.s. and Česká voda - MEMSEP, a.s., built on the success of the previous year by carrying out all activities in the new-generation maintenance outsourcing system – without compromising the coherence of water and sludge management – to the satisfaction of the clients, ČEZ, a.s. and Energotrans, a.s.

In 2023, PVK's maintenance work generated turnover of CZK 52.5 million. In addition, major contracts aggregating CZK 33.8 million were implemented (e.g. renovation of the gravity feeder for the combined-cycle Počerady power plant, worth CZK 12.3 million; the upgrading of pumps 3 and 6 at Dolní Zálezly pumping station, worth CZK 9.2 million; the upgrading of the treatment unit at Dolní Zálezly pumping station, worth CZK 4 million; and the repair of horizontal sand filters 6 and 7 at the combined-cycle Počerady power plant, worth CZK 3 million).

These and other commissions generated total turnover of CZK 86.3 million for PVK, making 2023 one of the most successful years in the history of this cooperation.

PROVISION OF REMOTE READINGS

In 2023, PVK continued to implement previously launched projects. These included remote readings of revenue-water meters for Vodohospodářská společnost Rokycany, s.r.o. in Rokycany, CHEVAK Cheb, a.s., Královéhradecká provozní, a.s., Středočeské vodárny, a.s., Frýdlantská vodárenská společnost, a.s., and VODÁRNA SOKOLOVSKO s.r.o. In its remote readings, PVK continues to work with companies such as Veolia Energie ČR, a.s., Pražská plynárenská, a.s., and PREměření, a. s. on long-running projects.

DRINKING WATER SUPPLIED IN SUBSTITUTE PACKAGING

Since 2016, two-litre bags of drinking water have become an integral addition to the alternative supply of drinking water whenever the supply of drinking water is restricted or interrupted, especially in the event of incidents and outages on the water supply network in Prague. In the second half of 2023, however, packaged water could not be deployed because the iron removal plant at Káraný Water Treatment Plant, where it is produced, was undergoing refurbishment. As a result, the iron removal plant had to operate in an alternate filtration mode and the subsequent building works required the complete dismantling of the packaging line. Prior to its actual shutdown, PVK stocked up on packaged drinking water by making maximum use of its storage capacity so that the bags would be available for a good proportion of the shutdown period.

Packaged drinking water, or more specifically containers of bagged water, remain a staple at corporate presentations and at social and charity events. It therefore comes as no surprise that other towns and cities are also showing an interest in water-bagging technology.

In 2023, 161 containers were deployed during 41 drinking water supply incidents and outages on the water network. Only a handful of these were of such a nature that a special awareness campaign had to be initiated to supply bagged drinking water to registered disabled citizens. Each bag contains 2 litres of drinking water and one container can hold 100 of these bags.

TECHNOLOGICAL SUPERVISION

In the field of drinking water technology, PVK provides water quality control and other services to Vodárna Káraný, a.s. PVK staff are responsible for direct process supervision at 21 wastewater treatment plants (WWTPs) where 1. SčV, a.s. is the operator or a contractual partner. In 2023, PVK's engineers oversaw or guided and prepared management agendas at the CWWTP, 22 PVK-operated BWWTPs, and 21 WWTPs operated or serviced by 1. SčV, a.s. This experience is then put to use in external contracts such as process consultancy at municipal WWTPs, the handling of WWTP issues at campsites, etc.

Other new contracts included the provision of expert advice for various studies, audits, etc. Here, PVK was involved in the preparation of a water audit, the monitoring of heavy metals at an industrial site, and a study on the recovery of production waste using anaerobic technology. Expert services were also commercialised via contracts related to a conceptual study of CWWTP sludge and energy management. In addition, PVK employees worked on contracts for the supply of analytical equipment. This involved the supply and installation of probes for all substances and N_2O at the Central Wastewater Treatment Plant, where carbon footprint know-how is combined with technical implementation. The energy auditing of WWTPs is emerging as another new area of external contracts.

FLOOD CONTROL MEASURES

PVK collaborates with Prague City Hall on flood defences. It maintains mobile pumps and conducts testing at pumping stations in cooperation with Česká voda - MEMSEP, a.s. Altogether, 29 units are kept in the PVK warehouse and another 18 pumping machines are stored in an external facility. PVK also maintains eight back-up pumps.

In 2023, PVK was responsible for 34 flood-protection pumping points on the sewer network. During the year, field tests were conducted at the pumping points according to the following plan – field tests with motor-generator sets twice a year, and with mobile pumps once a year. Alongside tests at pumping stations, wet tests using water are carried out at test sites.

A retention tank, complete with a permanent pumping station, was built on trunk sewer B. The new station will replace two pumping points in Karlín that previously required the deployment of four mobile pumps.

Two night flood drills – one in spring and the other in autumn 2023 – were held to practise setting up Prague's flood defences. In May, training was carried out in the Malá and Velká Chuchle section, where a pumping point with a single mobile pump was put into operation on Lázeňský Brook in Podjezd Street.

In October, a drill took place in the southern part of Zbraslav, where a pumping point was activated at Záběhlický Brook in U Loděnice Street. A mobile genset was installed at the pumping point to power three permanently fitted pumps in the stop-log chamber, each with a capacity of 300 l/s. During the year, flood pumping was carried out on two occasions, when a mobile pump was used to pump water from the Čertovka through the floodgates into the rising Vltava River. Pumping lasted for 9 days in April and 18 days in December.


Záleží nám na udržitelné budoucnosti Prahy i celé planety
Pražské vodovody a kanalizace
→ pvk.cz
Pražské vodovody a kanalizace
Přinášíme budoucnost zásobování vodou
Mobilní redukční ventil
→ pvk.cz
9AE 4789

LABORATORY SERVICES

The PVK laboratory collects and analyses samples both for internal requirements and for external customers on the basis of contracts or purchase orders. Prominent external laboratory services include water quality control for Želivská provozní a.s. and Vodárna Káraný, a.s., which supply water to the distribution system operated by PVK. Disinfection-related cooperation was extended with PVS and newly built water supply systems were commissioned. There was also cooperation in detecting sewer contamination and the protection of wastewater treatment plants.

In 2023, partnerships continued with other Veolia Group companies – Pražská teplárenská a.s. and Veolia Energie, a.s. – in the field of hot water analysis.

In 2023, PVK laboratories collected and analysed samples for external customers for fees totalling almost CZK 30 million.

PEST CONTROL

Taking 2023 as a whole, PVK used 13,640 kg of rat bait at 13,640 sewer entry points across Prague as part of a programme that covered city-wide, targeted, and preventive extermination. PVK carried out vermin control for 47 external customers and insect control for 25.

HYDRANT STANDPIPE RENTALS

In 2023, customers rented 435 metered hydrant standpipes in two sizes: 234 small HN DN 20-25 standpipes and 201 large HN DN 40-65 standpipes.

SEWER NETWORK SERVICING

PVK provides sewer network servicing to customers. In 2023, it emptied and disposed of the waste from 332 septic tanks, cleaned and disposed of the waste from grease traps at 541 sites, and built 360 new access points to the public sewerage system.

DOMESTIC WASTEWATER TREATMENT PLANTS

For customers who cannot connect to the sewer network, PVK staff successfully advised on and serviced domestic wastewater treatment plants. In 2023, they serviced, consulted on and inspected 18 domestic WWTPs.

CUSTOMERS

PVK promotes transparency and ethical rules as a prerequisite for the cultivation of long-term customer relationships based on trust and mutual respect, without discrimination of any kind. PVK provides a high standard of service and offers modern and user-friendly forms of communication to its customers and to end users. It makes use of all channels in its efforts to communicate information on water supply and wastewater disposal.

Besides modern tools such as the online customer account, the Moje Voda mobile app, and the SMS INFO information service for outages and incidents, the Company has maintained more traditional channels – a customer hotline and a customer service centre in Dykova Street, Prague 10, for those who prefer personal contact.

Since 2012, the PVK has kept to its "Customer Service Commitments", which help to improve the quality of its customer service. It also strives to practise the principle of corporate social responsibility, draws customers' attention to increases in their water consumption, and provides assistance if they find themselves in a difficult situation. The Company pays particular attention to customers with special needs. It tailors its services to accommodate the needs of disadvantaged customers so that they can still use them even if they are facing more challenging circumstances in life. PVK communicates with the visually impaired in a way that is fully understandable to them – by voice message. The SMS INFO information service is able to convert text into voice messages. Visually impaired citizens and customers of PVK benefit from this service because it also enables them to order packaged water in the event of a water outage or similar emergency. They place a request with PVK for delivery by voice message and packaged water is then delivered to them within two hours.

Since 2003, customer services have been certified according to the international standard ČSN EN ISO 9001:2001. In 2023, the annual autumn re-audit was held, with PVK once again defending this certificate and proving that it takes the utmost care to provide its customers with a high professional level of service.

PVK CUSTOMER STRUCTURE

Individual customers	INDIVIDUÁLNÍ ODBĚRATELÉ *69 862*
Residential buildings and cooperatives	BYTOVÉ DOMY A DRUŽSTVA *17 505*
Industrial customers and corporates	FIRMY A OSTATNÍ *8 412*

TOTAL CUSTOMERS
95,779

CUSTOMER SATISFACTION SURVEY

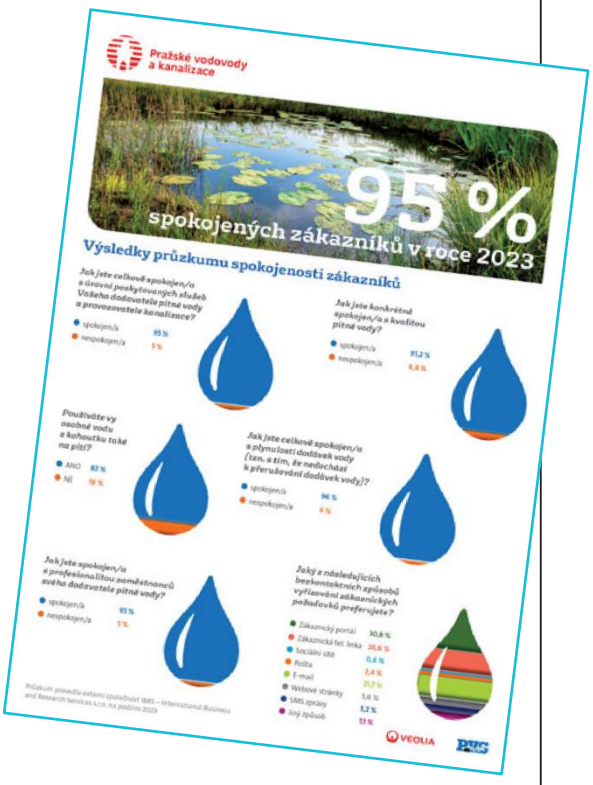
Keen to maintain a high standard of customer satisfaction, PVK continues to develop and promote innovations in customer service.

In the autumn, the traditional satisfaction survey was conducted by phone for PVK by the independent research agency IBRS - International Business and Research Services s.r.o. The survey involved a cohort of 890 respondents, comprising a mix of private customers, multi-family building managers, housing cooperatives, industrial customers, and corporates. The survey, conducted in Prague from 5 September to 11 October 2023, revealed that 95% of respondents were satisfied with PVK's services. Overall satisfaction was highest among housing cooperatives and corporates, at 97%. People appreciated the quality of drinking water (91%), the continuity of water supply (96%), and the professionalism of the staff (95%). People in Prague also value PVK's customer care. The survey showed that 93% of respondents were happy with the customer service centre's handling of their request, and 85% were satisfied with the quality of information. What form of communication is preferred by customers? Younger customers with a higher level of education tend to favour electronic communication (internet, email, the customer portal, text messages), while older customers prefer the customer service line. The customer portal is most favoured by individuals, with housing associations more likely to opt for the customer service line. Respondents from their ranks were 100% satisfied. The PVK website is also most popular with housing associations and companies.

CONTRACT CUSTOMERS AND BILLING

PVK provides services to 95,779 customers, an increase of 549 customers on the 2022 figure of 95,230. These are customers to whom PVK supplies drinking water and for whom it collects and treats wastewater on a contractual basis. Contract customers include individual customers (69,862), multi-family residential buildings and cooperatives (17,505), and corporates and others (8,412). As certain customers may have more than one contract in place, PVK recorded 119,009 supply points for billing purposes at the end of 2023.

In 2023, PVK continued to enter into new contracts with customers as required of it by an amendment to the Water Supply and Sewerage Systems Act (Act No 275/2013). Under that amendment, all customers must have a new contract in place by 1 January 2024. By the end of 2023, PVK had registered 110,781 updated contracts, i.e. 93.1% of all supply points.



Almost 67,000 customers had their bills emailed to them in 2023. PVK also offered to send tax documents via email. This means that legal entities, after paying a deposit, receive a tax document in advance so they have problem-free "VAT control statements". Customers also paid their bills via the lottery terminals of SAZKA a.s. These terminals read the barcode contained on PVK bills to obtain the payment details, and then issue a receipt confirming the customer's cash payment. Bills totalling CZK 26 million were paid in this way. Another avenue for customers to pay their bills was online via the customer portal. Over CZK 46 million was paid in this way. Customers were also able to use the QR code on their invoice to make payments. On all its billing documents, PVK prints a QR code that customers can use for cashless payments. Customers used this QR code to pay almost CZK 408 million for services.

Upwards of 44,000 customers have registered with the customer portal and opened an online customer account. This is the method of choice for private customers and companies in the handling of their enquiries. Secure online accounts give customers a constant overview of their water consumption, bills, deposits, payments, and meter readings. In the customer portal, customers can also pay bills and deposits online, report self-readings, submit requests or questions via the e-registry, make appointments online, and register for the SMS INFO service. They will also find a range of important information here, including a map of current incidents and planned outages, and information about the water quality in their street.

As the portal is interlinked with smart metering, users who have installed "smart" remotely read water meters can monitor their water consumption in real time and set alarms (related to the temperature at the meter, high consumption, or consumption during night hours) alerting them to high water consumption caused, for example, by a dripping tap or a leaking toilet. All this information is available in the Readings and Consumption section, offering a full consumption and meter reading history, plus easy access to the self-reading feature.

Besides the portal, the Moje voda mobile app has been developed for contract customers and consumers and is downloadable for both the Android and iOS user interfaces.

SMS INFO

To date, 45,292 customers have signed up for the SMS INFO service to receive text messages about incidents and water supply outages, including the estimated downtime. As such, registered customers receive, free of charge, important information about water via text message transmitted to their mobile phone. In 2023, 42,958 text messages and 1,026 voice messages about incidents and outages were sent to registered customers.

Over a million text messages have been sent since the service was launched.

JOINT OPINION PORTAL

In January 2021, PVK teamed up with Pražská vodohospodářská společnost a.s. (PVS) to launch a joint opinion portal. This speeded up the processing of requests for opinions on design documentation.

In 2023, 15,752 requests for network drawings and opinions on design documentation were processed via the opinion portal.

The portal makes it possible for applicants to submit requests for opinions on individual stages of building permit proceedings under Act No 183/2006 on spatial planning and the Building Code (the Building Act), as amended, as well as opinions on pre-project preparations or technical requests related to supply or drainage pipes that have already been installed. In 2023, the electronic receipt of requests for the waiver of the right of appeal and requests for surveying of the actual construction was introduced.

CALL CENTRE

In 2023, PVK's customer service line handled 78,671 customers with a 93.13% service level. Enquiries tended to centre on drinking water supply. Customer service line operators also respond to customers' emails. During 2023, they handled 34,449 customer emails and sent 19,674 text messages. Besides dealing with customers' calls and emails, operators also help to promote service provision, register customers for the SMS INFO service, and offer email billing, insurance to cover emergency situations, the activation of the customer portal and Moje voda mobile app, and other services.

The PVK call centre's organisation is in the hands of Solutions and Services, a.s. (the provider of ICT services within Veolia Group).

	2019	2020	2021	2022	2023
Number of calls handled	90,300	84,012	82,534	74,805	78,671
Service level	91.4%	93.04%	91.42%	91.64%	93.13%
Number of customer emails handled	47,846	52,443	54,620	38,537	34,449

CUSTOMER CENTRE

In 2023, 8,312 customers visited the customer service centre in Dykova Street, Vinohrady, to deal with all things contractual. Overall, 664 customers made use of the booking system and reserved an appointment in advance.

At the centre, customers can pay water and sewage bills and for water analyses, hydrants, etc., over the counter. 1,731 payments amounting to almost CZK 15 million were made in this way.

CUSTOMER COMMUNICATIONS

During the year, PVK published numerous informative materials for customers and the general public. In May, the customer magazine Voda pro Vás ("Water for You") was published and inserted into the main daily newspapers. In November, a magazine dedicated to sustainable and community projects was published.

PVK's services were also promoted in the form of PR campaigns in daily newspapers, via advertising, and in regular communication with the media. Other important communication tools were the Company's website, which was visited on average by over 70,000 users per month, the LinkedIn social network, and YouTube.

HOME ASSISTANCE AND REFUNDS IN CASE OF WATER LEAKS – FOR CONTRACT CUSTOMERS

Since 2015, PVK has made insurance cover available to its contract customers for emergencies related to leaks downstream of the water meter. This service, provided by UNITED ASSISTANCE, a.s., is free of charge to customers.

The assistance service is available 24/7. In an emergency, assistance service technicians will visit the customer and carry out two hours' specialist work. Customers do not pay for the call-out or essential work. PVK customers are entitled to make use of the assistance service three times a year per supply point free of charge. Customers can call the assistance service on 212 812 212.

In 2023, 4,074 PVK customers called this line. On-the-spot assistance was required in 507 cases, with all costs covered by UNITED ASSISTANCE, a.s. The most common emergency was a ruptured riser or a pipe directly downstream of the water meter.

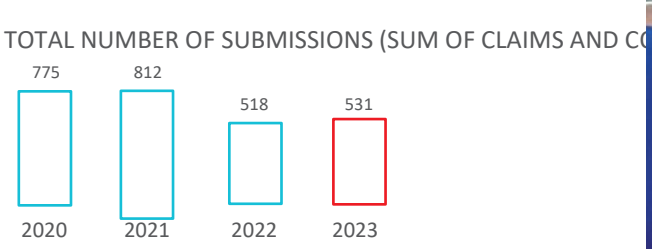
COMPLAINTS AND CLAIMS

The system for the handling of complaints and claims at PVK is set out in CEO Directive 12 – Handling of Complaints and Claims. Much like the situation in 2021 and 2022, when the Claims and Complaints Department revised the categories of claims and complaints, in 2023 certain changes were made to the reporting and tracking of Claims and Complaints Department activities.

Modifications were made to the reporting spreadsheet in that a distinction was introduced as to whether a submission (a claim or complaint) was being made for the first time or whether it related to a case that had already been raised. This made it possible to clearly quantify the number of claims and complaints in 2023 and the amount of follow-up correspondence. It also led to revisions in the number of complaints and claims per calendar year.

In 2023, 487 claims, broken down by the main subject of the claim into nine categories, were processed. Of that total, 38%, or 183 cases, were legitimate claims (compared to 42% legitimate claims in 2022).

As in previous years, most claims were related to billing – mainly incorrect readings, either by PVK or reported by the customer. A significant number of complaints also concerned water consumption, i.e. how much was metered and billed, with customers seeking a reduction in sewerage charges on the grounds that there had been water leakage downstream of the water meter. Another relatively frequently subject of claims can be found in the category of water meters. These claims concerned the replacement of water meters in the course of inspections, the retesting of water meters, or the malfunctioning of water meters. An increased number of claims from remote-reading supply points was also observed in 2023.



Another claim category is water quality. In 2023, PVK recorded an increase in the number of claims related to water quality, with customers reporting non-compliance with water quality standards and complaining about colour, odour, taste, etc. There was a particular surge in the number of claims of this type in the period from 10 July 2023 to 30 November 2023, i.e. when the planned long-term limitations on technology at the Želivka Water Treatment Plant were in place. Specifically, ozonisation and granular activated carbon filtration were interrupted. A total of 69 claims concerning water quality (mainly odour and taste) were filed between July and November 2023. This compares to only five claims in the same period of the previous year, 2022.

As in previous years, these three categories of claims were the most prevalent. In 2023, they accounted for 88% of the total number of claims.

In 2023, as in 2022, the PVK received 44 complaints, of which 18% (i.e. 8) were justified. In terms of complaints and their categorisation, most complaints in 2023 concerned the remediation of incidents. These were submissions where PVK customers objected, for example, to tardiness in fixing a fault, the poor siting of tankers in the vicinity of the breakdown (e.g. an insufficient number of tankers or the fact that they were located far from the customer's home), etc.

It should be noted, however, that each individual complaint concerning the repair of an incident was carefully investigated as far as technically possible and as far as local conditions allowed, and that 26 out of 30 were found to be unjustified.

THEFT – ILLEGAL CONNECTIONS

PVK is strongly committed to investigating water theft and illegal wastewater connections. In 2023, PVK staff proved water was being stolen in 100 out of the 127 cases investigated. The most common causes were meter tampering (63%), non-metered taps upstream of the water meter (21%), and unregistered supply pipes (9%).

In wastewater production, 169 of the 171 cases investigated were proven to be illegal. In 96% of these cases, the drainage pipe had not been registered or the wastewater was channelled directly into an inspection shaft.

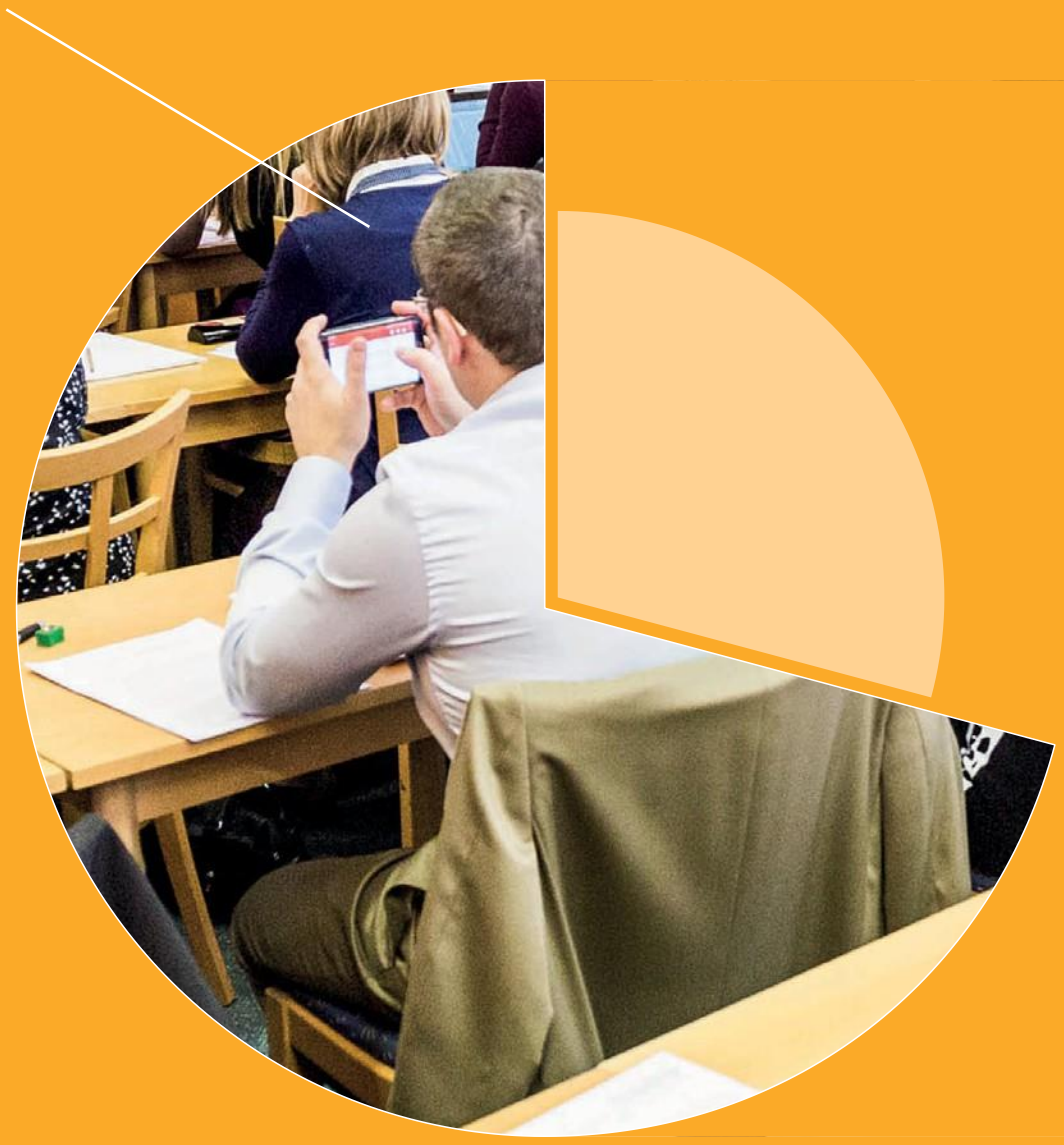
PVK billed over CZK 3.7 million for water theft and for illegally discharged wastewater. The total amount includes the cost of the investigation, the damage caused, and penalties.

PVK identifies potential water theft by running checks on offtake points in its own database. If an existing water charging contract does not include a provision on the disposal of wastewater or stormwater down a public sewer, the property is inspected.

PVK also checks structures that are not in its database (because they have their own wells) for connections to the public sewerage system. PVK employees may only enter private buildings in the presence of the owner.

Where necessary, PVK seeks the assistance of the competent local authority (the state building supervisory body). PVK also draws on camera surveys and special operations to investigate the situation surrounding wastewater discharges.

IN 2023, THE STAFF SICKNESS RATE WAS MAINTAINED AT 2,7 %



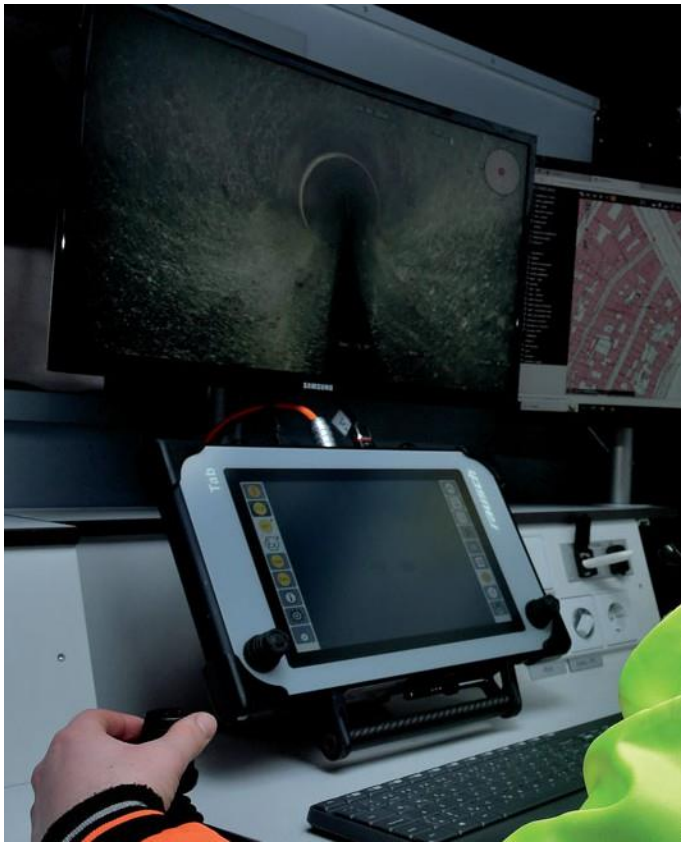
One of the Company's priorities is to improve the skills and training of its employees. A systematic approach to education brings a number of advantages and enhances employees' motivation and stability.

ODPO-

VĚDNOST

RESPONSIBILITY

Pražské vodovody a kanalizace is committed to maintaining good relations with all suppliers, shareholders and customers. As a stable and responsible company, it fosters high-standard working conditions for its employees, enabling them to channel as much energy and talent as possible into achieving common corporate goals and customer satisfaction.



The Company's corporate strategy encompasses an ethics guide, an anti-corruption code of conduct, a manager's code of conduct, an environmental charter and an occupational safety code, along with adherence to PVK's internal standards and requirements arising from certification and related standards in the fields of quality, occupational safety, and energy and environmental management. Openly maintained social dialogue and cooperation with the trade union and the entire workforce are of paramount importance to PVK.

The negotiation of the collective agreement marks the annual culmination of mutual cooperation and respect between the Company's management and the trade union, built on long-term engagement with the Trade Union of Woodworkers, Forestry Workers and Water Management Workers (DLV) in the negotiation of the higher-level collective agreement applicable to the Veolia Czech Republic Group. In 2023, we once again met our commitments under the collective agreement and even managed to enter into a collective agreement for 2024 reflecting the higher-level collective agreement with the DLV trade union that had been adopted for Veolia Czech Republic Group.

47 years

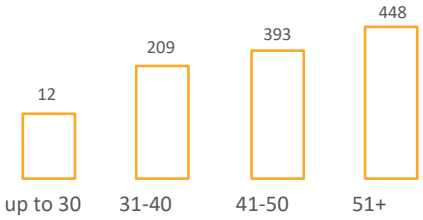
Average age of employees

OUR EMPLOYEES

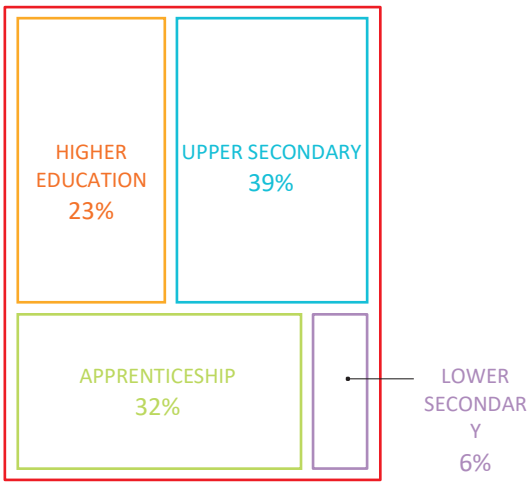
At the end of 2023, PVK had 1,171 employees. The average full-time equivalent number of employees in 2023 was 1,146. During the year, 87 employees left and 105 joined. Turnover was therefore 0.2% higher year on year. Of the total number of employees, 866 (74%) were men and 305 (26%) were women. The Company employed 32 part-timers (3%), 103 temporary staff (9%), 19 persons with disabilities (2%), and 50 members of staff who had reached retirement age (4%).

In 2023, with inflation at around 11%, average wages rose by 11%, which more than delivers on the long-term commitment to real wage growth. There were 29,034 hours of overtime, averaging 25 hours per employee per year.

EMPLOYEE STRUCTURE BY AGE



EMPLOYMENT STRUCTURE BY LEVEL OF EDUCATION ATTAINED



EMPLOYEE BENEFITS

In 2023, PVK spent CZK 49.7 million, i.e. 4% of total personnel costs, on social expenditure for employees. Of this amount, CZK 2.4 million was spent on the trade union organisation's activities, CZK 1.9 million was spent on sport and cultural events, and CZK 0.7 million was channelled into personal and work anniversaries. CZK 0.1 million was spent on social assistance and almost CZK 1 million was granted to employees as housing loans.

Personal pension plans and life assurance are an important part of employee benefits and are used by 77% of staff. The Company contributed almost CZK 12 million overall to these particular benefits.

Employees were able to draw on a number of other benefits, such as the employer's meal allowance of CZK 96 per voucher (provided as a meal card), and the extension of the cheaper employee mobile phone rate to family members. Employees enjoy extended annual leave of six weeks.

The group savings scheme based on Sequoia mutual funds, in its 13th year in 2023, is an outstanding and time-tested proposition for staff. In 2023, PVK joined VEOLIA CARES, Veolia's global health and social security programme. This employee benefit scheme, available to all staff without distinction, provides allowances for maternity and paternity leave, financial assistance to survivors in the event of an employee's death, support for staff who are caregivers for seriously ill family members, one day off per year for volunteering, and other benefits.

EMPLOYEE TRAINING

One of the Company's priorities is to improve the skills and training of its employees. A systematic approach to education brings a number of advantages and enhances employees' motivation and stability. 23% of the Company's employees hold a university degree, 39% have full secondary education, 32% have a vocational qualification, and 6% left school on completing their lower secondary education. The cost of continuing staff training totalled CZK 10 million in 2023.

PVK spent the largest share, 73%, of these expenses on increasing professional qualifications; 16% was spent on mandatory training and training for special professions, and 11% was spent on improving employees' language proficiency.

The training of employees of PVK and other Veolia in the Czech Republic Group companies is mainly provided by the Group's company, Institut environmentálních služeb, a.s., which offers wide-ranging courses and training programmes.

OCCUPATIONAL SAFETY

Occupational safety is one of the strategic elements established internationally for the entire Veolia Group, including PVK. Veolia Group is committed to guaranteeing a healthy and safe working environment. The OHS ground rules contained in the Labour Code, applicable legislation and other regulations on OHS are also conveyed by the internal Code of Occupational Safety. Above and beyond their mandatory training, all employees take a hands-on first-aid course once every two years.

Since January 2007, PVK has held an occupational health and safety management system certificate. In November 2023, the Company successfully retained all certificates for its integrated management system, including ČSN ISO 45001, as part of a regular audit.

Long-term OHS targets are to drive down accidents at work to a minimum and eliminate fatalities altogether. The prevention policy has helped to reduce the number of accidents at work.

In 2023, PVK recorded seven work-related injuries resulting in more than three calendar days of incapacity. Every September, PVK participates in the International Health and Safety Week. The main motto for 2023 was “Let’s all take action to improve our health and safety!“ (“SAFE REFLEX”), with the focus once again on raising awareness of risky behaviour.

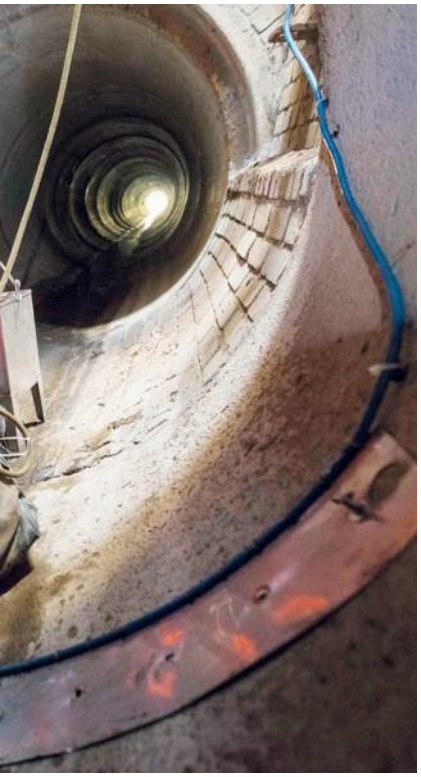
EVENTS FOR EMPLOYEES

In June, a Children’s Day was held in the courtyard of the Podolí Waterworks, where competitions and attractions were organised for children. The Prague Waterworks Museum was open to all, and guests had the opportunity to try on 3D glasses in order to explore hidden spots in the Prague water system. The event was attended by 150 children and 130 parents and grandparents.

A team of athletes from PVK and Česká voda - MEMSEP, a.s. played their first amateur football match in the Employees’ League, organised by the Vltava Labe Media publishing house for company teams. The PVK team won, securing advancement to the regional round in the spring of 2024.

In June, the 24th Sports Day was held in a sports centre in Nymburk. There were great performances and exciting contests in all the disciplines – tennis, table tennis, badminton, volleyball, football, netball, dragon boat racing, and pétanque.

At the end of November, employees and their families were invited to an Advent Art Workshop, where the children made scented candles, fizzy bath bombs, Christmas ornaments, and Advent wreaths. In December, a Saint Nicholas party was held for employees’ children, where the play We Watched Over Jesus was put on for them, a magician performed magic tricks, and Nicholas, the devil and an angel came along to give out gifts to the children.



OCCUPATIONAL MEDICINE SERVICES AND EMPLOYEE WELLBEING

In 2023, the staff sickness rate was maintained at 2.7%. This low level was helped by the fact that PVK arranges for employees to undergo periodic medical examinations beyond the scope of mandatory checks. In cooperation with SALUBRA, medical examinations were arranged for employees, including the vaccinations set out in the collective agreement and other statutory examinations. A general practice at the Hostivař complex serves employees and their family members. Work performance was regularly surveilled in workplaces to identify and assess risk factors. Heightened attention was also paid to staff vaccinations. Hepatitis A antibody levels are continuously monitored for those in positions where they are exposed to a biological risk.

In keeping with tradition, in the autumn flu vaccinations were offered to employees free of charge and were provided directly in selected workplaces.

In June, the Company held a SO´WELL Week dedicated to mental and physical wellbeing. Staff were given the opportunity to sign up for three online seminars: The Impact of Light on Human Health, Healthy Lifestyle, and Stress Management. As part of SO'WELL Week, management prepared a benefit for all employees that they could put towards an activity of their choice, such as sport, cultural events, or leisure. This CZK 1,000 allowance was loaded onto all employees' Edenred Cards (these are dual cards that include a "leisure wallet").

The SO'WELL programme also offered employees the option to have a preventive eye test. Vision testing was set up directly in selected workplaces over six different dates.

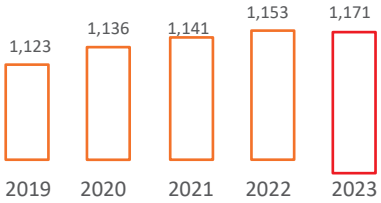
In May and September, PVK made arrangements with the surgery in Hostivař for employees to undergo preventive skin and mole examinations in order to detect possible skin risks. In November, as part of the Healthy Company programme, the Company teamed up with the health insurer Oborová zdravotní pojišťovna (OZP) to hold an employee Health Day focusing on body composition measurements, podoscopy, and OZP guidance.

During PINK OCTOBER, focusing on breast cancer prevention, staff were given presentations that included a practical demonstration of how to perform a self-examination. The workshops were held in Podolí and Hostivař in cooperation with Loono, a non-profit organisation that has long been raising public awareness about cancer prevention.

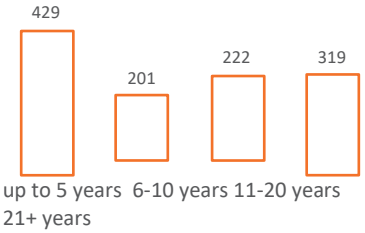
As part of preventive occupational medicine care, in December each employee received Benu pharmacy vouchers worth CZK 1,000 for health-promoting products, in particular vitamins and vitamin supplements, vaccinations, etc. In October, as in June, staff had CZK 1,000 loaded into the leisure wallet of their Edenred Benefits cards.

Since June 2023, employees have been able to make use of a new benefit, the Staff Psychological Support Programme. This psychological support helps employees to deal with situations in their lives in a safe environment, receive assistance from experienced psychotherapists, learn how to work with stress, address acute crisis scenarios, become more resilient, and develop the capacity to work with energy and emotions.

NUMBER OF EMPLOYEES, BY YEAR



EMPLOYEE STRUCTURE BY LENGTH OF SERVICE



INTERNAL COMMUNICATIONS

PVK is keen to interact with its workforce and recognises that employees' loyalty, motivation, and overall satisfaction will be strengthened if they are kept properly in the loop. Meetings at all levels of company management, together with emails, invitations, and newsletters, are a means for employees in various positions to share information and network. Magazines and internal training programmes, conducted both online and in person, are another important channel of communication. The intranet also plays an integral role in the dissemination of information. It is constantly kept up to date as a source of operational, technical, and economic data. All reporting, invitations to employee events, audit alerts, and other important information can be found here.

Pévékáčko, the very popular in-house magazine, was published six times in 2023. It reported on new projects, covered staff and customer surveys, offered a window into the history of the water industry, ran a regular column introducing the work of employees in various positions, and presented a round-up of social events across the Company. Veolia Group also shared information about important events via email correspondence, regular e-newsletters, and the *Planeta* magazine.

PVK supports and itself organises a variety of casual meetings and events, such as Káranský vodovodník, a charity sports event. Cyclists and pedestrians gathered in Káraný for the fifth time and, in addition to the routes and trails that had been prepared for them, enjoyed a programme for children and tours of the Káraný water treatment plant.

Pražské vodovody a kanalizace never neglects its former employees and retired water workers. It holds regular get-togethers where they can chat and reminisce about their careers and the work they did. In the spring, seniors attended a presentation at the Prague Waterworks Museum, where they were introduced to the Hidden Places of the Prague Water Industry project and were able to watch films in 3D glasses.

In the autumn, they met at the Prague Castle Riding School to visit the Czech and Slovak Architecture exhibition and hear a lecture by Professor Vladimír Šlapeta that PVK had arranged for them.

Several events during the year were designed for employees' children and family members. At the beginning of June, a Children's Day was held in the courtyard of Podolí Waterworks. In the run-up to Christmas, employees and their families took part in Advent workshops and a Saint Nicholas party.

Voice of Resourcers 2023, a wide-ranging internal satisfaction survey organised by Veolia Group, was conducted from 6 to 26 November 2023. Some 911 PVK members of staff (90%) took part in the survey. Ipsos polled employees for their opinions. This survey is proof of Veolia's interest in employees' experiences and in gathering information on the ground about their expectations, perceptions of the Company, and their working situation.

RESULTS OF KEY INDICATORS

	% agreement
My work targets are clearly defined	96%
I find my work meaningful	97%
I am satisfied with the working atmosphere at my department/facility	91%
I am proud to work for a Veolia company	91%
I am satisfied with my work-life balance	93%
I feel sufficiently appreciated and rewarded for my work	77%
We respect and stand in solidarity with each other at our facility/department	95%
There is a good level of cooperation at my department/facility	96%

CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL PROTECTION

By its very nature, PVK is a company geared towards the environment. Both the supply of drinking water and the treatment of wastewater are directly tied to environmental protection, and an emphasis is placed on the ecological aspects of all work carried out by the Company.

In its operations, PVK strives to be of benefit to all Prague's citizens and visitors.

SPONSORSHIP AND PATRONAGE

As a socially responsible company, PVK regularly contributes to various socially beneficial, educational and environmental projects.

Some of them again took place with PVK's backing in 2023. These include events such as Microclimate, ComicCon Prague, the Midsummer and Saint Martin Festivals, the Sokol Run of the Republic, RunTour, the Run for the Memory of Nations, the Grébovka Grape Harvest, and ScienceFest. In the winter season, PVK sponsored several outdoor ice rinks. It also became a partner of the Czech and Slovak Architecture exhibition at Prague Castle Riding School. The long-standing partnership with the Želivka Water House continued. The Company also engaged in community projects, which saw it work with Asistence, a charity that cares for the handicapped, and make a donation towards a vehicle adapted to transport the physically disabled.

PVK runs a long-term project under which it donates used computer equipment to community associations and organisations. In 2023, computers, monitors, keyboards and mice were provided to the Ecumenical Activity Network for Young People, the Sokol Vyšehrad Sports Union, the Rozmarýna Society, Prague 9 Social Services, and Portus Prague.

EDUCATIONAL PROGRAMMES AND AWARENESS RAISING

PVK's awareness-raising and educational activities have gained a permanent foothold in the public consciousness, and are of great interest to schools and the general public.

Since 2001, the Water Guards Club (*Klub vodních strážců*) has been bringing together children aged 6–15 who are interested in nature, technology, and all manner of water-related topics. Teachers are also eligible to become club members. In 2023, the 44th and 45th issues of the club magazine were published. Members who are the children of staff receive the magazine from their parents, and other members are sent it by post. Club membership is growing among teachers, who draw on information from the magazine as a basis for lessons or to enrich and reinforce the themes they are teaching. The spring issue of the magazine was dedicated to zoos, while the autumn issue concentrated on water sports. Club events in 2023 included Káranský vodovodník in the spring, while in the autumn the children got to meet the world-famous angler Jakub Vágner, who gave a talk on his expedition to Bhutan.

The educational programmes at the Prague Waterworks Museum and the wastewater treatment plant in Horní Počernice proved to be very popular. During the year, 95 guided tours for schools, 49 lectures on the water cycle for primary schools, and 21 guided tours of the wastewater treatment plant were held. Four lectures on the water cycle were organised directly in schools.

Awareness-raising events for the public were also held. These included Microclimate in Prosek, ScienceFest and, the new Podolí Waterworks Open Day. These were opportunities for the general public to learn how drinking water and wastewater are treated. PVK technologists also conducted chemical experiments and presented a science show as part of the programme at the Podolí Waterworks. Carts of drinking water were set up at many cultural and sporting events. At Sciencefest, PVK installed misters.

The Hidden Places of the Prague Water Industry project was expanded to include more facilities in 2023. Special 360° videos were filmed about the water treatment plants in Podolí and Káraný, and about the Prague drinking water distribution system. The videos are published, with accompanying text, online at www.cistavoda.pvk.cz. They can also be viewed on the PVK YouTube channel.

A travelling exhibition was created for the project, consisting of large-format exhibition panels with information about the various facilities. The text here is accompanied by a QR code that visitors can scan with a mobile phone to view the films. The exhibition was set up in several locations around Prague in 2023. In September, it was installed on the piazza of the Florentinum building, where it was officially opened by PVK CEO Petr Mrkos, PVK Board Chairman Philippe Guitard, and infrastructure councillor Michal Hroza. Other locations hosting the exhibition were Mariánské náměstí (the square in front of Prague City Hall), Rašínovo nábřeží Street in Prague 2, the DBK Shopping Centre in Prague 4, as well as sites in Prague 15 and Prague 8. It was also part of the Advent event in the Loreta Garden.

PRAGUE WATERWORKS MUSEUM

Having been affected by the Covid pandemic in previous years, in 2023 the museum was spared forced closures and rigorous hygiene measures. It operated without restrictions the whole year from January to December. The museum was a big draw among schools and the public and attracted 5,612 visitors, 406 more than in 2022. In 2023, the museum was again involved in the Experiential Tourism project, with 1,051 people purchasing tickets, i.e. more than double the 538 visitors recorded in 2022. The museum's open days in March and October were attended by 898 visitors.

At the beginning of the year, a set of Josef Lada's paintings was borrowed from the museum for the Josef Lada in Zlín exhibition. In the second half of the year, the long-planned installation of a new outdoor exhibit – a sluice valve from the Káraný waterworks from 1936, repaired and refurbished for exhibition purposes – in front of the entrance to the Podolí Water Treatment Plant was completed.

SUPPORT FOR BIODIVERSITY AT SITES MANAGED BY PVK

For PVK, promoting biodiversity is one of its primary objectives in the management of the sites entrusted to it. This guides its non-invasive approach and its efforts to promote the diversity of flora and fauna through a variety of activities. Last year, the Company continued to work on biodiversity support strategies with the Czech Union for Nature Conservation (a partnership in place since 2011) and the Czech University of Life Sciences (since 2020).

In 2023, it focused on the following projects in this regard:

BIODIVERSITY SITES

The findings of a botanical survey carried out in cooperation with the Czech University of Life Sciences, completed in 2022, were used to define the methods that would be adopted to maintain PVK-managed sites. During 2023, standards for the establishment and maintenance of biodiversity sites were phased in. The project is expected to culminate in 2024 with the publication of a COO working procedure. The aim is to create and maintain high species diversity at sites managed by the Company, deploy efficient maintenance methods, and draw on the associated economic benefits (e.g. a lower number of mowings).

REVITALISATION OF THE LHOTKA SITE

In 2023, the Lhotka site in Prague was revitalised. The land was partitioned, based on its use, into a section for robotic mowing and a section for sowing biodiversity grass. Special seed known as “Prague Regional Mix” – a species-enriched meadow seed containing plant species indigenous to the Prague area, provided free of charge by Prague City Hall – was sown. For this site, the mix was customised to create meadow vegetation that would naturally occur here.

BEES

In 2023, a record number of bee colonies was established at PVK sites. In all, 125 bee colonies were wintered at 10 sites, where they were cared for by four keepers. Hives can now be found at Havlín, Modřany North II, Lhotka, Flora, Vypich, Kozinec, Břevnov, Prosek, Andělka and Bruska. The absence of pesticides and artificial fertilisers means that honey from the Prague hives is widely regarded as being of the highest quality, as confirmed by the beekeepers the Company works with.

ENVIRONMENTAL AUDITS

In 2023, two environmental audits were prepared: “Assessment of Current Conditions and Measures Proposed to Enhance Biodiversity at Podolí Waterworks and Veslařský Island” and “Assessment of Current Conditions and Measures Proposed to Enhance Biodiversity at Káraný Waterworks”. These audits, conducted by the Czech Union for Nature Conservation, were favourable, suggesting only minor or complementary changes in the planting of greenery, the siting of birdhouses, etc.

FORMAL ENVIRONMENTAL COMMITMENTS

In 2023, PVK made two formal commitments relating to the sites it manages: “We do not use pesticides” and “How we care for the greenery at our sites”. The first commitment reflects Veolia Group’s insistence on eliminating the use of pesticides (i.e. herbicides, fungicides, insecticides, and biocides). It also includes invasive-species control. The second commitment tackles the principles of environmentally friendly maintenance. Both documents are also binding for external gardening maintenance contractors at the sites, i.e. for Česká voda - MEMSEP, a.s.

MISTING

As climate changes make themselves felt and, in particular, as temperatures soar in the summer months, heat islands are forming in cities, including Prague. PVK and PVS have been responding to this reality for several years by installing misters, and now also refreshers, in Prague streets at vulnerable spots. In 2023, 22 misters and 11 refreshers were installed, which is an increase of 8 such systems compared to the previous year, despite the fact that some previously used locations were undergoing reconstruction and therefore could not be used.

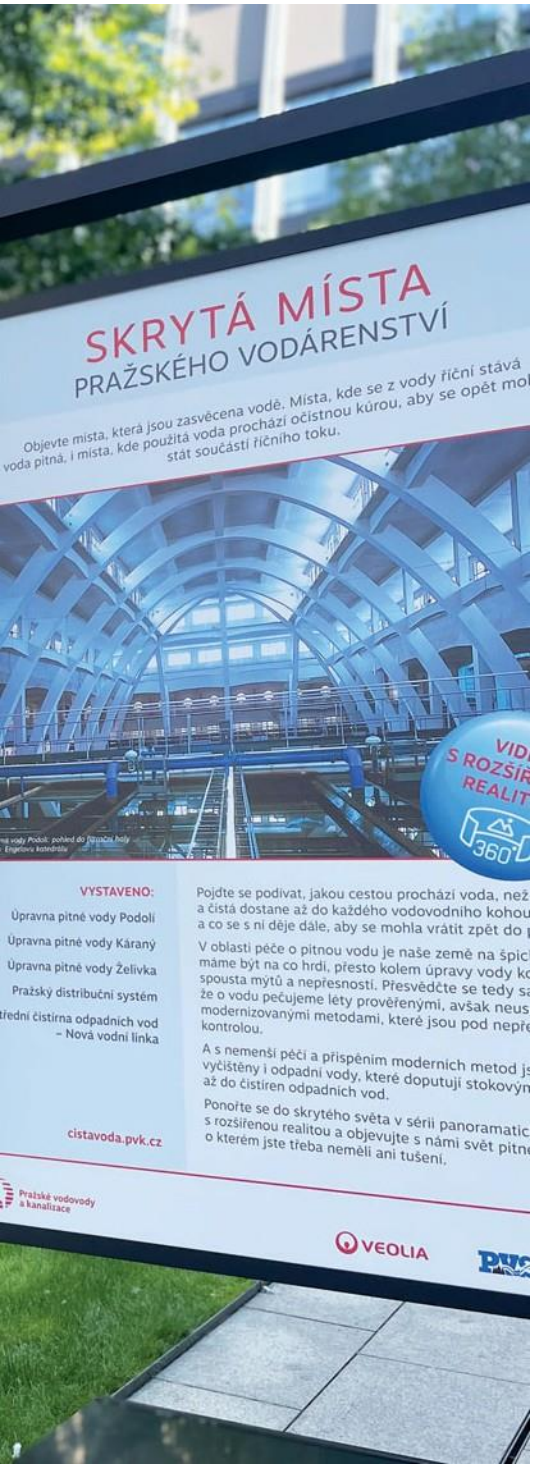
Misters produce very small droplets of water that evaporate before they reach the surface, thus cooling the surrounding air and reducing dust. Refreshers are also fitted with a drinking fountain so that passers-by can fill their own containers with fresh drinking water. All installed misters and refreshers are listed on the Mapy.cz and Googlemaps.com websites.

PVK IS A RESPONSIBLE COMPANY

PVK's activities related to sustainability and social responsibility are a long-established practice. Besides the usual glass, plastic, and paper sorting containers, selected buildings (depending on the number of employees) are equipped with bins for sorting biodegradable waste, metals, and Tetra Pak packaging.

In 2023, PVK continued to take back end-of-life products to help conserve natural resources. Take-back is available for batteries, fluorescent lamps, toners and all electrical appliances. In 2023, PVK and the Veolia Foundation organised a collection of discarded clothing for charitable purposes. The clothes were handed over to the non-profit organisation Borůvka Praha, whose employees carefully sorted everything. Nicer pieces went to charity shops – Koloběh second-hand shops, which employ assistants who are on disability pensions. The remainder was used by other affiliated organisations, such as shelters and companies operating clothing recycling bins, which add them to their process so that even clothes that can no longer be worn are not wasted.

PVK also tries to identify other ways in which used packaging – such as the paper boxes for water meters – can be reused. This packaging is passed on to the Freshlabels sustainable fashion shop. In November 2023, PVK and Veolia took part in Giving mobile, an initiative to collect as many used mobile phones as possible. The collection was organised by REMOBIL, which donated CZK 10 for every used mobile phone to the Jedlička Institute. In total, PVK managed to collect 112 mobile phones.



WASTE GENERATION

In 2023, PVK generated 170,500 tonnes of waste, 51% of which was sludge from municipal wastewater treatment, 44% was construction waste from repairs and incidents on the Prague water supply network, and only about 0.01% was hazardous. The share of hazardous waste at the Company has long been negligible.

PVK places an emphasis on environmentally sound waste management and cooperates to the full with entities that prioritise waste recovery over waste disposal. Only a minimum of our waste is not reused. An enormous 99% of PVK's waste is demonstrably reused by cooperating entities, resulting in a high level of Company engagement with the concept of the emerging circular economy.

In 2023, PVK generated 75,100 tonnes of construction waste, which was passed on to contractual partners for reuse. Of this amount, 97.6% was processed at recycling facilities and 2.4% was used for site remediation.

Sludge from municipal wastewater treatment is used on farmland in compliance with all the principles and requirements of applicable legislation. Sludge is a rich source of organic matter, essential nutrients and trace elements for depleted soil in the Czech Republic. Spreading sewage sludge on agricultural land improves its fertility. For cooperating farmers, this sludge plugs the gaps left by lower quantities of farmyard manure from livestock production, while reducing the need for artificial fertiliser. Parallel to this, the application of treated sludge can be viewed as supporting or contributing to the nascent regenerative agriculture strategy.

In 2023, PVK worked with 34 agricultural holdings in two regions (Central Bohemia and Ústí nad Labem) and nine districts (Louny, Litoměřice, Mělník, Kladno, Prague East, Prague West, Kolín, Benešov and Příbram), and with several composting plants. Treatment plants produced 87,200 tonnes of sludge, of which 86% was applied to farmland and 14% was processed by composting plants (in Prague West and Kutná Hora).

WASTE RECOVERY

PVK operates facilities for the processing of selected types of biodegradable waste. The Company offers the materials recovery of this waste and, in doing so, contributes to the circular economy. In 2023, the CWWTP processed almost 11,700 tonnes of biodegradable waste.

Of this amount, the CWWTP found itself in receipt of 9,700 tonnes of grease which would otherwise have been discharged into the Prague sewer network. PVK also offered a mobile collection service that removed 1,160 tonnes of greasy waste from the grease traps of catering and restaurant establishments.

CARBON NEUTRALITY

PVK has long been committed to social responsibility. In 2023, it became the first company in the Czech Republic to have its 2022 GHG Inventory Report audited according to ISO 14064. The audit opinion was issued by Validační a ověřovací orgán SGS Czech Republic, a body accredited by the Czech Accreditation Institute.

In 2022, the Company mapped its operational carbon footprint across all its facilities to give a detailed picture of the actual situation and to learn how to make better and faster progress towards gradually reducing this footprint, and towards its ambitious goal of becoming completely carbon neutral. In line with the GHG Protocol, GHG emissions were divided into 3 “scopes”:

	t CO_2-eq	%
Scope 1 – direct emissions		
Technological processes	93,486.4	50.39
Fuels	2,755.8	1.48
Coolants	223.3	0.12
Scope 2 – indirect emissions generated by the production of purchased energy		
Electricity	47,835.1	25.77
Natural gas	1,431.1	0.77
Heat	1,055.1	0.57
Scope 3 – other direct emissions		
Purchased goods and services	27,342.3	14.73
Investments	2,826.6	1.52
Technological waste	3,074.2	1.66
Water losses	1,510.9	0.81
Indirect emissions from fuel and energy	3,350.8	1.81
Business trips	25.0	0.01
Commuting	670.7	0.36
Total	185,587.3	100.00

The certified audit yielded a number of surprises. Contrary to initial assumptions that the main sources of emissions were purchased energy (Scope 2) and transport (Scope 1), it turns out that the technological processes involved in wastewater treatment (Scope 1) are major emitters.

Based on the methodology introduced in 2022, PVK’s operational carbon footprint for 2023 was 185,587.3 t CO_2-eq.

PVK is attempting to find technological ways to tackle the climate crisis that have a minimum impact on the quality of life enjoyed by the people of Prague.

Projects that PVK has already implemented or will soon implement in partnership with the City of Prague and PVS include:

- replacement of the CNG fleet and the purchase of electric vehicles, including the installation of the necessary infrastructure;
- installation of a biogas treatment unit for biomethane production;
- the use of heat pumps on water mains in order to generate heat and cooling;
- installation of photovoltaic systems in selected locations;
- process emission measurement and control.

All these activities are gradually reducing the Company’s operational carbon footprint.

COOPERATION WITH THE VEOLIA FOUNDATION

Pražské vodovody a kanalizace, a.s. has worked closely with the Veolia Foundation ever since it was set up. In 2023, PVK contributed to projects taking place in Prague. The main projects in which PVK is financially engaged are:

MiNiGRANTS®

This long-standing Veolia Foundation project for Veolia Group employees encourages volunteer work and involvement in free-time, environmental, social, cultural, sports and other projects. Once a year, all employees may apply for funds in support of a good cause for which they volunteer. In 2023, the Veolia Foundation supported 30 PVK employees with CZK 850,000.

LET'S RETURN WATER TO NATURE

The Let's Return Water to Nature project manages a fundraising aimed at preserving precious natural sites. Since 2018, the Veolia Foundation has worked with the Czech Union for Nature Conservation, which searches for suitable sites that it then buys and provides with long-term protection. So far, this project has saved more than 60 hectares of wetlands. The Veolia Foundation has donated more than CZK 7.8 million towards this cause.

KEEP SMILING – ACTIVE ALL LIFE LONG

The Company's 2021–2023 programme of support for six projects aimed at promoting the quality of life of the elderly came to an end last year. This partnership with relevant organisations provided both sides with a lot of practical experience and benefits, with CZK 1 million being donated to implement and support the project.

INNOVATION

PVK has long been dedicated to innovation and the development of new environmentally friendly technologies, and, in doing so, it contributes to Prague's sustainable development. It keeps an eye on new trends that can make its operations more efficient and reliable.

GRANT PROJECTS

In 2023, PVK followed up on the successful implementation of grant projects from previous years. The topics of the projects now being implemented focus primarily on the development and testing of new technologies in the fields of water management and environmental protection. In 2020, against the backdrop of the COVID-19 pandemic, one of the projects had been expanded to include the long-term monitoring of the presence of SARS-CoV-2 – the causative agent of COVID-19 – in wastewater. This issue was further developed by PVK and extended to include the monitoring of antibiotic resistance genes, the sequencing of genetic information per se, and analytical methods developed under the project and successfully implemented by PVK in its laboratories. Three grant projects by two grant providers – the Technology Agency of the Czech Republic and the State Environmental Fund of the Czech Republic – were addressed.

The most significant achievements of the projects are undoubtedly the continuation of the above-mentioned wastewater sampling, the introduction of gene sequencing methodology into PVK's operating practices, the completion of the pilot testing of sewage sludge pasteurisation, and the registration of the utility model "Equipment for sewage sludge pasteurisation to remove antibiotic resistance genes" in the Register of Utility Models of the Czech Republic.

Another interesting output is the design of technology for the upgrading and extension of the wastewater treatment plant at Thomayer University Hospital as part of the project "Decentralised removal of micropollutants from infectious hospital wastewater", supported by the State Environment Fund with the Norwegian Funds. The project's primary objective is to reduce micropollutant concentrations between the inlet and outlet of the hospital WWTP by upgrading its process line. Decentralised micropollutant removal will allow pollution to be captured before it enters the city's sewer network.

As part of the project, the mechanical pre-treatment process will be upgraded, the operation of the existing process line will be optimised, and additional technologies (ozonisation and filtration via GAU) will be introduced.

HYGIENE CONTROL AT LÁDVÍ RESERVOIR

In 2023, PVK was involved in the performance and evaluation of the trialling, and in the subsequent operation, of the renovated hygiene control system at Ládví I reservoir. Originally, there was a chlorinating plant with chlorine gas here. This was replaced by the production of sodium hypochlorite at the feed point (the brine electrolysis principle). This is the same technology that has been in operation at the Flora pumping station and reservoir since 2015. The test phase ran from January to April 2023.

One of the main findings of the trial was that the manufactured sodium hypochlorite was insufficiently homogenised with the treated drinking water at the feed point. Drive water needed to be added to optimise homogenisation in both dosing profiles (inflow from Káraný and the inflow of Želiv water from the Jesenice I reservoir). Due to the pressure conditions at the Ládví I reservoir, a set of pumps for drive water had to be added. At the end of 2023, the required technological units were installed. Since then, hygiene control at the Ládví I reservoir has been in continuous operation.

PODOLÍ UPGRADE

PVK continued the project to upgrade the Podolí water treatment plant with the addition of technology and the modernisation and refurbishment of the water treatment plant's process line. The project has been commissioned by Pražská vodohospodářská společnost a.s. In June 2023, a two-year project for a pilot plant unit consisting of two lines was completed. The first line included oxidation (H2O2/UV radiation) and sorption processes (GAU filter); the 2nd line comprised membrane separation processes (micro- and nanofiltration). The results of the pilot plant unit were presented to the supervisory team and interim final reports were drafted. Immediately after the completion of the pilot plant testing, the final stage of the project – the design of the future structure of the Podolí water treatment plant's process line – was launched. In total, five alternatives, including their spatial arrangement and their operational and investment requirements, were drawn up.

During the year, PVK arranged to realise and optimise the operation of the continuous measurement of the water-sludge interface at the Podolí water treatment plant. These measurements help to control the operation of clarifiers 3-6 by gauging the opening of the clarifier, which indicates the height of the sludge blanket. This enables the frequency of clarifier descaling to be automatically adjusted in response to the quality of the incoming raw water and the required dose of coagulant. In addition, 12 continuous turbidity analysers were added behind the sand filtration system at Podolí water treatment plant. They are positioned behind the individual filters in the first gallery and are used to monitor the quality of the filtered water and to optimise the washing frequency.

WALTER SCÉN TOBOLO

In the second half of 2023, Walter Scén Tobolo, a software tool developed by PVK in collaboration with the University of Chemistry and Technology, Prague, and VDT Technology, a.s., started to be used on the New Water Line at the Central Wastewater Treatment Plant in Prague. This is a predictive digital instrument that employs artificial neural networks to process data series of rainfall, sewer flow rates, and wastewater quality. This information is then used to predict the amount of flow and quality of water flowing into the wastewater treatment plant.

With this tool, control room staff have round-the-clock information about the expected inflow and quality of the incoming wastewater two hours in advance. Armed with accurate forecasts, CWWTP staff can prepare for precipitation, start dosing the necessary chemicals in time, and adjust the pumping so that the quality of the treated wastewater is as good as possible. After several months of testing, the predictions yielded excellent results as they were significantly more accurate than “human” estimates, based on weather forecasts, of the time that the inflow would change. The use of this application also reduces the potential for error and thus makes the CWWTP more cost-effective to run.

SEWER NETWORK ODOUR

PVK implemented the project “Neutralisation of odour from the public sewer system in the area of Network Plant 2” for Pražská vodohospodářská společnost. It installed 26 anti-odour biological filters and carried out other works in Horní Měcholupy (Na Křečku, Hornoměcholupská) and in Dolní Měcholupy (Ke Dráze, Za Kovárnou).

Biological filters neutralise odours while maintaining sewer ventilation. This significantly reduces odours around sewer manholes. In recent years, the Company has successfully dealt with complaints from the public about sewer odour. In all these cases, the cause of the odour is investigated using modern measuring techniques.

Comprehensive studies are conducted for problematic areas and the necessary measures are subsequently implemented in cooperation with PVS.

PVK LABORATORIES EXPAND THEIR PORTFOLIO

In response to the requirement to introduce new water quality control methods and newly defined water indicators, the PVK laboratory is constantly expanding the range of water contaminants it monitors using modern instrumentation.

The detection of pesticide substances, their metabolites, and other organic water contaminants by means of liquid chromatography – mass spectrometry (LC/MS) was extended to include other pesticide metabolites, in particular the pharmacological group. In 2023, the portfolio of monitored substances was again expanded. The laboratory is able to detect more than 300 micropollutants of concern. The range of contaminants monitored continues to grow.

A legislative amendment also expanded the group of microbiological indicators to include the detection of somatic A legislative amendment also expanded the group of microbiological indicators to include the detection of somatic coliphages, i.e. bacterial viruses that attack the cells of selected strains of E. coli and certain related bacterial species. These are indicator organisms that broaden the group of indicators identifying faecal water pollution. This parameter is included in routine monitoring for PVK sources.

IT SERVICE INNOVATIONS

In 2023, PVK continued a multi-year project to implement BIM (Building Information Modelling) at PVK. The project is ongoing in 2024. It will result in the long-planned connection to the Technical Information System. As in 2023, the development of SWiM 4.0, the next-generation central control system integrating fast-emerging aspects of artificial intelligence, will proceed in earnest in 2024. Finished parts will start to be tested during 2024. The launch of this system has been slated for 2025.

In 2023, PVK worked intensively on the final stage of the Business Continuity Management (BCM) project, including all its components. This project will be completed in 2024. As a critical infrastructure provider, PVK also draws up emergency response plans. The aim is to prepare the BCM to be compatible with the emergency response plans. Parallel to this, preparations for the NIS2 Directive are under way so that PVK will be able to comply with this directive smoothly once the legislative steps have been completed.

INSTITUT ENVIRONMENTÁLNÍCH SLUŽEB (IES)

IES HIGHLIGHTS IN 2023

Revenue: CZK 49,609,000 Number of employees: 11

IES shareholder structure:

40%	30%	30%
Campus Veolia France	Pražské vodovody a kanalizace, a.s.	Veolia Energie Česká republika, a.s.

Institut environmentálních služeb, a.s. (IES) is a Veolia Czech Republic Group training company. Since 2002, it has been responsible for the training agenda (the preparation, organisation, implementation, and evaluation of training events) across Veolia Group companies in accordance with the Group's requirements and its strategic plans and objectives.

Health and safety issues, along with the personal development of Veolia Group employees, were among Veolia's key strategic priorities in 2023. Comprehensive and long-term training plans were created for areas such as:

1. OHS – the system of mandatory training required by law, which every company has set up in this area, was expanded to include the first extension courses under the Veolia Safe Work Policy, known as Veolia OHS Standards.

OSH-related training:
- First aid training: 2,411 attendees (of which 755 from PVK)
- Introduction to the Safe Work Policy: 5,693 attendees (of which 1,110 from PVK)
- Safety in transport: 5,320 attendees (of which 1,005 from PVK)
- Work at height: 3,211 attendees (of which 368 from PVK)
- 12 Life Saving Rules (516 attendees from PVK)
- HiPO Hunt – a communication and training campaign: 2,966 attendees (of which 418 from PVK)

2. Cybersecurity – a comprehensive system of continuous awareness-raising about cybersecurity in the Veolia Czech Republic Group.

Cybersecurity-related training:
- Mobile devices – common risks and threats: 4,528 attendees (of which 791 from PVK)
- Public Wi-Fi issues: 4,546 attendees (of which 800 from PVK)
- Social engineering: 4,453 attendees (of which 727 from PVK)

3. Compliance – the compliance training plan complements the comprehensive strategy in this area and also supplements the certified anti-bribery management systems of individual Veolia Czech Republic Group companies.

Compliance-related training:
- Compliance in the Czech Republic – water: 831 attendees (of which 599 from PVK)
- "What not to tell who" communication and training campaign: 2,635 attendees (of which 513 from PVK)
- KPM compliance course – 3 modules: 20 attendees (of which 5 from PVK)
- Code of Conduct: 3,947 attendees (of which 822 from PVK)
- What to do when you encounter corruption: 93 attendees from PVK
- Anti-corruption Code of Conduct: 2,464 attendees (of which 487 from PVK)
- Compliance Training 2023: 615 attendees (of which 126 from PVK)

4. SoWELL – Launch of a staff wellbeing project. Support and development of the mental, physical and social health of Veolia Czech Republic Group employees. The aim is to integrate this concept and its application into the everyday experience of all our employees in order to improve balance and wellbeing not only at work, but also in their personal lives.

SoWELL-related training:
- The impact of light on human health / how to get a good night's sleep: 151 attendees
- Healthy lifestyle – the effect of diet on humans: 188 attendees
- Stress management / energy management: 218 attendees

	Prezenční školení	On-line webináře	eCampus	L@V (Learning@ Veolia)
Počet realizovaných vzdělávacích akcí	943	30	215	250
Počet účastníků	15 763	1 949	6 523	809
Počet Training Sessions	8 492	111	87 602	2 734
Počet odučených hodin (á 60´)	117 967	9 813	40 873	2 819

IES performance indicators show that there was a significant 23% increase in demand for in-person training (2022: 6,905; 2023: 8,492). Much of the training also switched to e-learning, which saw more than 100% growth compared to 2022. Each Veolia employee completed almost 12 e-learning courses in 2023, equating to 4.5 hours of study per employee. The average time required to complete one e-learning course was approximately 45 minutes.

In 2023, the digitisation process in all areas of IES activities continued. All internal processes were digitalised as part of the move to the introduction of a paperless office. In particular, there was progress in digitalising the training processes. The integration of HR systems and the eCampus training platform makes it possible to update user accounts on the Veolia – eCampus learning portal on a daily basis and to automatically transfer study results from eCampus to HELIOS.

In May 2022, under a cooperation agreement with the Water Supply and Sewerage Association of the Czech Republic (SOVAK), IES opened another round of "Water Supply and Sewage Network Operator", a study programme that ends with a single-subject vocational graduation examination in "Water Management Structures". This course was attended by 33 students in the 2023/24 school year. In 2023, 34 participants from the previous round passed their final examination on Water Management Structures at the Post-Secondary Vocational School of Civil Engineering and Secondary School of Civil Engineering in Vysoké Mýto.